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Municipal Wastewater Treatment Works Construction Grants Program: References, Regulations, Guidance, Procedures

Environmental Protection Agency

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15. Supplementary Notes

16. Abstracts

The Federal Water Pollution Control Act Amendments of 1972, P.L. 92-500, authorizes a 75% Federal share of the cost of construction of municipal wastewater treatment works projects. This Manual of References has been prepared as part of a general U.S. Environmental Protection Agency effort to provide sufficient information to improve the progress of on-going projects under the construction grants program and encourage the submittal of additional construction grant applications from localities.
This Manual of References contains relevant program regulations, guidance and technical information.

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Municipal Wastewater Treatment Works Construction Grants Program

References

Regulations · Guidance · Procedures

CLEAN WATER

United States Environmental Protection Agency
Washington, D.C. 20460

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FOREWORD

Public Law 92-500 (The Federal Water Pollution Control Act Amendments of 1972) is generally considered one of the most complex pieces of technical legislation ever to emerge from Congress.

Since passage of the law, authorizing a 75 percent Federal share of the cost of construction of municipal wastewater treatment works projects, the national construction grants program has experienced a major expansion, committed to the goal of obligating all the funds authorized for this purpose by September 30, 1977.

Rapid program expansion imposes even greater demands for the dissemination of knowledge. This MANUAL OF REFERENCES has been prepared as part of a general U. S. Environmental Protection Agency effort to provide sufficient information to improve the progress of on-going projects under the program and encourage the submittal of additional construction grant applications from localities.

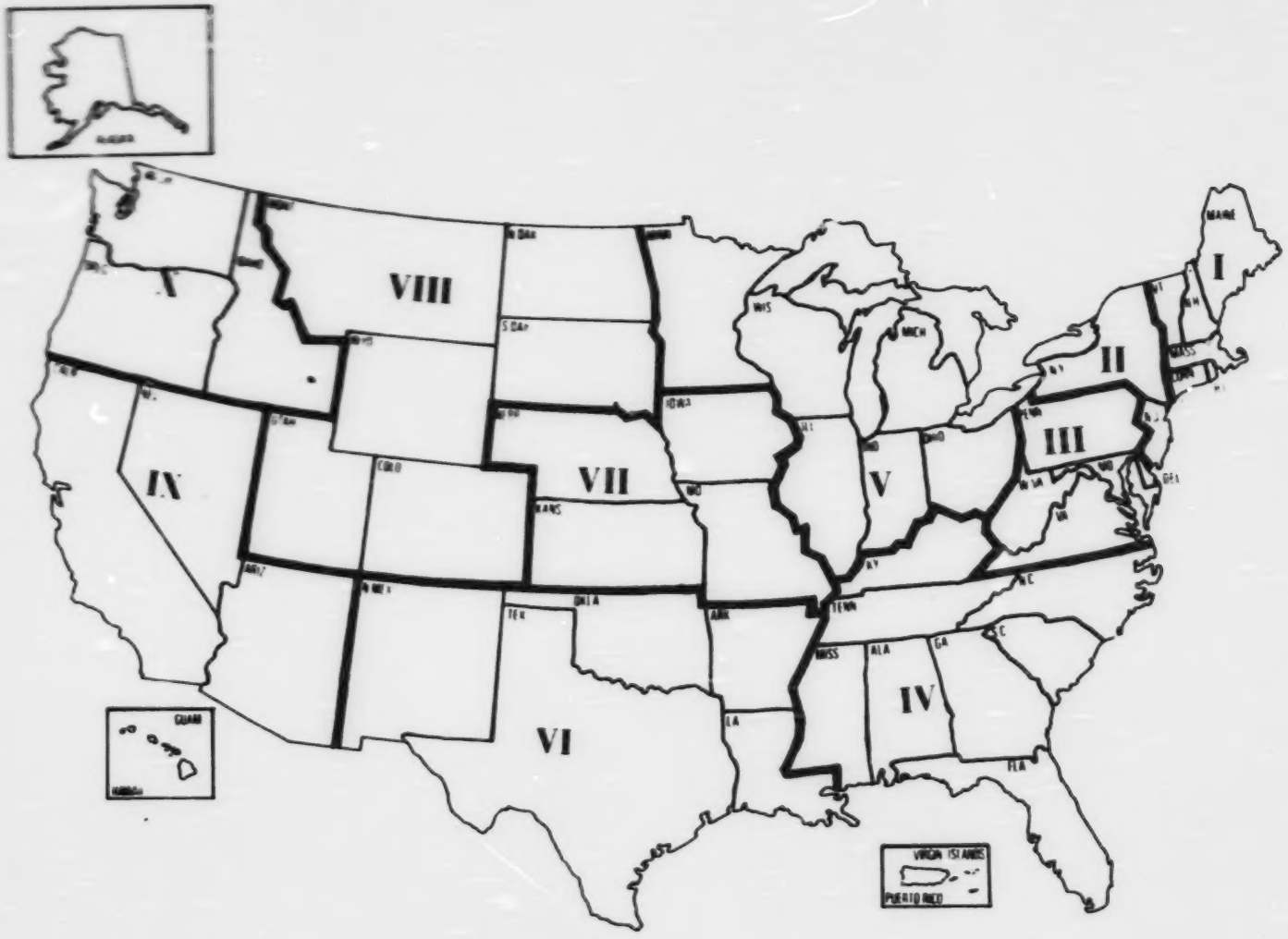
This publication contains relevant program regulations, guidance and technical information. It will be useful as an interim aid until the definitive "Construction Grants Manual" has been issued (scheduled for early 1976). Following publication of the Construction Grants Manual, these REFERENCES should be kept so that source documents applicable to the program can be protected, and maintained available for consultation.

These REFERENCES will be augmented from time to time with additional documents that will be forwarded for insertion as they become available. Concerning the organization of these REFERENCES you will note the Tables of Contents at the beginning of each of the three Sections list the documents in successive order. Since the reference documents themselves have individual numbering sysyems, consecutive page numbering is not used. To help maintain this MANUAL OF REFERENCES, the transmittal letter for new documents will contain insertion information, along with revised Tables of Contents, for the holders of record.

Inquiries concerning these REFERENCES should be directed to the appropriate EPA Regional Office (See map and list of Regional Office locations.), or to the Municipal Construction Division, Office of Water Program Operations, U. S. Environmental Protection Agency, 401 "M" Street, S. W., Washington, D. C. 20460.

REGIONAL OFFICES AND REGIONAL ADMINISTRATORS

Region	Regional Administrators	Address	Telephone
I HOURS:	John A. S. McGlennon 8:30-5:00 E.S.T.	John F. Kennedy Federal Building Room 2203 Boston, Massachusetts 02203	617 223-7210
II HOURS:	Gerald M. Hansler 8:00-4:30 E.S.T.	26 Federal Plaza Room 1009 New York, New York 10007	212 264-2525
III HOURS:	Daniel J. Snyder III 8:00-4:30 E.S.T.	Curtis Building 6th & Walnut Streets Philadelphia, Pennsylvania 19106	215 597-9814
IV HOURS:	Jack E. Ravan 8:15-4:45 E.S.T.	1421 Peachtree Street N.E. Atlanta, Georgia 30309	404 526-5727
V HOURS:	Francis T. Mayo 8:15-4:45 C.S.T.	230 S. Dearborn St. Chicago, Illinois 60604	312 353-5250
VI HOURS:	John C. White 8:00-4:30 C.S.T.	1600 Patterson Street Suite 1100 Dallas, Texas 75201	214 749-1962
VII HOURS:	Jerome H. Svore 7:15-4:00 C.S.T.	1735 Baltimore Avenue Kansas City, Missouri 64108	816 374-5493
VIII HOURS:	John A. Green 8:00-4:30 M.S.T.	1860 Lincoln Street Suite 900 Denver, Colorado 80203	303 837-3895
IX HOURS:	Paul DeFalco Jr. 8:00-4:30 P.S.T.	100 California Street San Francisco, California 94111	415 556-2320
X HOURS:	Dr. Clifford V. Smith 8:00-4:30 P.S.T.	1200 6th Avenue Seattle, Washington 98101	206 442-1220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MUNICIPAL WASTEWATER TREATMENT WORKS

CONSTRUCTION GRANTS PROGRAM

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MANUAL OF REFERENCES

Municipal Wastewater Treatment Works Construction Grants Program*

I. FEDERAL REGULATIONS

A selection of the regulations most applicable to activities in acquiring and maintaining a Federal grant to construct a municipal wastewater treatment works are reprinted in this section from the "Federal Register." They also appear in the "Code of Federal Regulations."

These regulations should meet general reference needs in applying the Federal requirements to construction grant applications and project completion activities. However, it should be noted that all Federal regulations that could apply to a project are not included, nor are the State and local requirements. Of further interest on the selections, over one-third of the regulations are derived from areas outside of environmental protection concerns.

For easier use, the documents have been grouped into six broad categories of regulations:

I. Construction Grants and General Grants
II. Administrative
III. Provisions for Environmental and Social Impacts and Public Participation
IV. Planning and State Program Assistance
V. Permits (National Pollutant Discharge Elimination System) and Water Quality Monitoring
VI. Other

Additional pertinent regulations will be forwarded to you, as they become available, for insertion in this MANUAL OF REFERENCES.

*Under the Federal Water Pollution Control Act Amendments of 1972 (P.L. 92-500)

MANUAL OF REFERENCES

Municipal Wastewater Treatment Works
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I. FEDERAL REGULATIONS

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I. Construction Grants and General Grants Regulations

1. (02/11/74) EPA - Water Pollution Control (Construction Grants for Waste Treatment) (See Regulation No. I-7, below.)
2. (05/08/75) EPA - General Grant Regulation and Procedures (Revision of Part)
3. (05/08/75) EPA - General Grant Regulations (Technical Amendments to Chapter)
4. (10/01/74) EPA - State and Local Assistance (Administration of Construction Grants)
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4. (07/05/73) EPA - Nondiscrimination in Federally Assisted Programs
5. (01/25/74) EPA - Equal Employment Opportunity under EPA Contracts and EPA Assisted Construction Contracts
6. (09/13/74) EPA - Nondiscrimination in Programs Receiving Assistance from the EPA (Sex Discrimination)

III. Provisions for Environmental and Social Impacts and Public Participation Regulations

1. (04/14/75) EPA - Preparation of Environmental Impact Statements
2. (05/23/73) EPA - Water Programs (Public Participation in Water Pollution Control)
3. (03/19/74) EPA - Implementation of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970
4. (02/04/75) DOI - National Register of Historic Places (Advisory Council on Historic Preservation)
5. (10/21/74) GSA - Guidelines for Agency Implementation of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, Public Law 91-646

IV. Planning and State Program Assistance Regulations

1. (05/13/74) EPA - Areawide Waste Treatment Management Planning Agencies (Interim Grant Regulations)
2. (09/14/73) EPA - Areawide Waste Treatment Management Planning Areas and Responsible Planning Agencies
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2. (05/22/73) EPA - National Pollutant Discharge Elimination System
3. (07/24/74) EPA - National Pollutant Discharge Elimination System (Miscellaneous Amendments)
4. (07/24/73) EPA - National Pollutant Discharge Elimination System (Guidelines for Acquisition of Information from Owners of Point Sources)
5. (08/28/74) EPA - Water Quality and Pollutant Source Monitoring (Proposed Rules)

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2. (03/06/75) EPA - Freedom of Information

I.

CONSTRUCTION GRANTS AND GENERAL GRANTS REGULATIONS

federal register

MONDAY, FEBRUARY 11, 1974

WASHINGTON, D.C.

Volume 39 ■ Number 29

PART III

ENVIRONMENTAL PROTECTION AGENCY

■

WATER POLLUTION CONTROL

Construction Grants for Waste Treatment Works

Title 40—Protection of Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

SUBCHAPTER B—GRANTS

PART 35—STATE AND LOCAL ASSISTANCE

Final Construction Grant Regulations

Title II of the Federal Water Pollution Control Act Amendments of 1972 (Pub. L. 92-500, 33 U.S.C. 1251 et seq.) authorizes the award of construction grants for waste treatment works. The award of these grants creates a contractual obligation of the United States for payment of the Federal share of the construction costs of such projects.

Interim regulations were published in the FEDERAL REGISTER for this program on February 28, 1973 (39 FR 5339). Written comments received from interested parties are on file with the Environmental Protection Agency. The agency has carefully considered all comments submitted by the public, as well as comments made by EPA and State Agency personnel on the basis of their experience under the interim construction grant regulations. A number of these comments have been adopted or substantially satisfied by editorial changes in, deletions from, or additions to this subpart. An effort has been made to conform the procedures and requirements of the new grant system to the construction grants program established under section 8 of the prior Federal Water Pollution Control Act, as well as to ensure that new statutory requirements will be met.

Major changes in this subpart are the following:

(1) The three-step grant process has been clarified to reflect that a basic grant application is submitted for the initial award of grant assistance, and that subsequent related projects will be funded through amendment of this grant. In addition, in accordance with section 2 of Pub. L. 93-243, enacted December 28, 1973, the requirement that a Step 3 project had to result in an "operable" treatment works has been deleted. A project may be awarded for any "segment" of treatment works construction as that term is defined in new § 35.905-24, which provides that a segment may consist of any portion of the treatment works construction associated with a discrete contract or subcontract to be awarded for Step 1, 2, or 3 project work.

(2) Section 35.915 has been revised and expanded to explain more clearly EPA requirements under applicable statutory provisions for State priority systems and the interrelationship between this subpart and regulations which have been issued under section 106 and 303(e) of the Act. Each State will develop and submit a single project priority list which will remain in effect until a new list is approved as a part of the annual section 106 State program submission; once priority has been established for a project, the project will retain this priority until funded, unless the State otherwise provides through its priority system. Two new provisions have also been added. Section 35.915(g) requires that each State reserve not less than 5 percent of fiscal year 1975 and subsequent State allotments of contract authority in order to adequately provide for cost overruns which are being experienced under the construction grant program. Section 35.915(i) permits (but does not require) the State to establish a separate reserve for grant assistance for Step 1 and Step 2 projects whose selection for funding will be determined by the State agency subsequent to approval of the project list, since experience has demonstrated that States require more flexibility than is permitted by an annual priority determination.

(3) Facilities planning requirements are set forth in new §§ 35.917 through 35.917-9. In order to permit a transition into these new requirements, full compliance with substatutory requirements will not be required except with respect to Step 1 work which is initiated after April 30, 1974. After October 31, 1974, a "plan of study" must be approved prior to the initiation of Step 1 work. These new procedures are designed to assure better accomplishment of the objectives of the new Federal Water Pollution Control Act and collateral statutory requirements (such as the National Environmental Policy Act of 1969). These statutory requirements must be addressed by the applicant during the facilities planning process.

(4) New procedures have been established in revised § 35.927-6 to assure that the infiltration/inflow requirements derived from section 201(g) (2) and (4) of the 1972 FWPCA Amendments are met without unnecessary documentation and expense.

(5) New provisions in §§ 35.925-18 and 35.936-4 delineate the Agency's position with respect to the initiation of project construction prior to the award of grant assistance for Steps 1, 2, or 3. Section 206 of the FWPCA Amendments of 1972 clearly precludes the type of reimbursement previously authorized under section 8 of the former FWPCA with respect to projects (as defined under the program authorized by the prior statute) on which construction was initiated after June 30, 1972. Due to the institution of the three-step grant process under the new FWPCA, it has become necessary to address the issue of reimbursement with respect to "initiation of construction" (as defined in 35.905-4) for Steps 1 and 2. For this reason, and to permit better program management by EPA and State agencies, and to permit better accomplishment of statutory objectives, procedures are set forth in § 35.925-18 which will phase out the possibility of a reimbursement claim. Eligible Step 1 of Step 2 project work initiated prior to November 1, 1974, will be fully reimbursed in conjunction with the next award of grant assistance, if reimbursement is requested (see § 35.945(a)). Prior approval will be required with respect to Step 1 and Step 2 work which is initiated after October 31, 1974. Step 1 or Step 2 work initiated after June 30, 1975, must be preceded by award of grant assistance or, in the case of Step 1 work, prior approval of a plan of study accompanied by reservation of funds for the grant award.

State agencies are requested to furnish detailed comment through EPA Regional Administrators with respect to any difficulties which may be encountered in the application of § 35.925-18. This section will be revised, if necessary, to permit an orderly transition into a fully nonreimbursable program and at the same time to assure that the development of projects necessary to comply with applicable effluent and water quality related requirements will not be hindered.

(6) Section 35.936-6 has been added to clarify the extent of the Federal Government's obligation to pay 75 percent of approved project costs. The section emphasizes the grantee's obligation to notify EPA and the State of unavoidable cost overruns and to avoid the incurrence of costs in excess of the approved grant amount, which operates as a ceiling upon Federal participation until and unless revised through funding of grant amendments from State allotments, for project changes for which timely notification has been received. The statutory provision for funding of this program solely through a system of State-by-State allotments operates to limit the possibility of funding for cost overruns incurred under these grants in a more rigid manner than cost overrun funding under Federal contracts; cost overruns under these grants must be funded from State allotments, in addition to the funding of new projects.

(7) Section 35.936 has been restated to encourage more explicitly the use of advanced technology and accelerated construction techniques. The section now provides that "• • • processes or methods which have been successfully demonstrated under less than full scale conditions may be utilized in the construction of treatment works • • •." Under the interim regulations, only processes which had been demonstrated under "comparable" conditions could be used.

(8) New § 35.938 codifies EPA procedures pertaining to the award of construction contracts by grantees during Step 3. The basic intent of these procedures is to assure free and open competition among bidders and to assure compliance with the nonrestrictive specification requirement of section 204(a) (5) of the Act. Section 35.937 which would address procurement by grantees of professional and personal services, is being separately issued as a proposed regulation, which will not be effective until an interim or final regulation is adopted.

In addition, a considerable number of technical revisions have been made throughout the subpart. Accordingly, for the convenience of users, the entire subpart is being republished.

Construction grant regulations adopted under Section 8 of the former FWPCA

(§ 35.800 et seq. of this part) remain in effect and are applicable to construction grants awarded prior to January 1, 1973, under the authority of section 8. This Subpart E establishes policies and procedures applicable only to construction grant awards from fiscal year 1973 and later contractual obligation authority allotments under Title II of the FWPCA Amendments of 1972.

Regulations have been promulgated separately as Subpart D of this part to implement the reimbursement provisions of section 206 of the 1972 FWPCA Amendments.

This subpart is promulgated as a final regulation and will replace the interim regulations previously promulgated. However, because of the numerous changes and additions which have been made throughout this subpart, public comment is again invited. In particular, comment is invited upon the new provisions of the following sections: 35.903, 35.908, 35.915, 35.91[illegible] to 35.917–9, 35.930–6, 35.938, 35.939, and 35.960. Interested parties are encouraged to submit written comments, views, or data concerning this subpart to the Director, Grants Administration Division, Environmental Protection Agency, Washington, D.C. 20460. All such submissions received on or before April 15, 1974, will be considered with respect to the need for amendment of this subpart.

Effective date. This subpart shall become effective February 11, 1974. All EPA construction grants awarded pursuant to sections 109(b) and 201(g)(1) shall be subject to this subpart. It is necessary that this subpart take effect immediately in order to accomplish the objectives of the Act and to assure optimum achievement of the effluent and water quality objectives established pursuant to the Act.

Dated: February 4, 1974.

RUSSELL E. TRAIN,
Administrator.

Subpart E—Grants for Construction of Treatment Works—Federal Water Pollution Control Act Amendments of 1972

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AUTHORITY: Secs. 109(b), 201 through 208, 207, 210 through 212, and 301(a), 502, and 511 of Pub. L. 92-500 (86 Stat. 816; 33 U.S.C. 1361) as amended by Pub. L. 93-243.

§ 35.900 Purpose.

This subpart supplements the EPA general grant regulations and procedures (Part 30 of this chapter) and establishes policies and procedures for grants to assist the construction of publicly owned waste treatment works in compliance with the Federal Water Pollution Control Act.

§ 35.903 Summary of construction grant program.

(a) The construction of Federally financed waste treatment works is generally accomplished in three steps: Step 1 facilities plans and related elements; Step 2 preparation of construction drawings and specifications; and Step 3 fabrication and building of a treatment works.

(b) The Regional Administrator may award grant assistance for a Step 1, Step 2, or Step 3 project, or, under special conditions, for a project involving a combination of Steps 2 and 3. A "project" (see § 35.905-16) may consist of an entire step or any "segment" (see § 35.905-24) of construction within a step.

(c) Grants are awarded from State allocations (see § 35.910) pursuant to statute. No grant assistance may be awarded unless priority for a project has been determined in accordance with an approved State priority system pursuant to § 35.915. The State is responsible for determining the amount and timing of Federal assistance to each municipality for which treatment works funding is needed.

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(d) The scope of a project will be initially defined by a prospective applicant. This initial project scope may be revised by the State when priority for the project is established. The final determination of project scope will be made by the Regional Administrator when grant assistance is awarded (see § 35.930–4).

(e) An application must first be submitted to the State agency for each proposed grant. The basic grant application must meet the requirements for the project set forth in § 35.920–3. Submissions required for grant assistance for subsequent related projects shall be provided in the form of amendments to the basic application. The State agency will forward to the appropriate EPA Regional Administrator complete project applications or amendments thereto for which priority has been determined by the State agency. The grant will consist of the grant agreement resulting from the basic application and grant amendments awarded for subsequent related projects.

(f) Generally, grant assistance for projects involving Steps 2 or 3 will not be awarded unless the Regional Administrator first determines that the facilities planning requirements of §§ 35.917 to 35.917–9 of this subpart have been met. After October 31, 1974, written approval of a "plan of study" (see § 35.920–3(a)(1)) must be obtained prior to initiation of facilities planning. After June 30, 1975, facilities planning may not be initiated prior to approval of a Step 1 grant (see §§ 35.925–18 and 35.905–4).

(g) If initiation of Step 1, 2, or 3 construction (see § 35.905–4) has occurred prior to award of grant assistance, costs incurred prior to the approved date of initiation of construction will not be paid and award will not be made except under the circumstances set forth in § 35.925–18.

(h) The Regional Administrator may not award grant assistance unless the project application requirements of § 35.–920–3 have been met and he has made the determinations required by § 35.925 et seq.

(i) A grant or grant amendment awarded for a project under this subpart shall constitute a contractual obligation of the United States to pay the Federal share of allowable project costs up to the amount approved in the grant agreement (including amendments) in accordance with § 35.930–4 of this subpart, subject to the grantee's compliance with the conditions of the grant (see § 35.935 et seq.) and other applicable requirements of this subpart.

(j) Section 35.945 authorizes prompt payment for incurred project costs in accordance with a negotiated payment schedule. The initial request for payment may cover unpaid allowable costs of work completed prior to award except as otherwise provided in § 35.925–18. All allowable costs incurred prior to initiation of project construction must be claimed in the application for grant assistance for that project prior to the award of such assistance or no subsequent claim for payment may be made for such costs. The estimated amount of any grant or grant amendment, including any prior costs, must be established in conjunction with determination of priority for the project. The Regional Administrator must determine that the project costs are reasonable and allowable, in accordance with § 35.940.

(k) Pursuant to section 204(b) of the Act, the grantee must comply with applicable user charge and industrial cost recovery requirements; see §§ 35.935–11, 35.935–12, 35.928, 35.935–13, and Appendix B of this subpart.

(l) Sewage collection systems for new communities, new subdivisions, or newly developed urban areas must be addressed in the planning of such areas and should be included as part of the development costs of the new construction in these areas. Such costs will not be allowed under the construction grant program, pursuant to section 211 of the Act; see § 35.935–13.

(m) The approval of a plan of study for Step 1, a facilities plan, or award of grant assistance for Step 1, Step 2, or Step 3, or any segment thereof, will not constitute a Federal commitment for approval of grant assistance for any subsequent project.

(n) Where justified, a deviation from any substatutory requirements of this subpart may be granted pursuant to § 30.1001 of this chapter.

(o) It is the policy of the Environmental Protection Agency to promote adequate public participation in the construction grant process. Opportunity for public participation is required: (1) In the development of the State water pollution control strategy and State project priority list, pursuant to §§ 35.558 and 35.915; and (2) in the development of facilities plans, pursuant to § 35.917–5.

§ 35.905 Definitions.

As used in this subpart, the following words and terms shall have the meaning set forth below:

§ 35.905–1 The Act.

The Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.), as amended by the Federal Water Pollution Control Act Amendments of 1972 (Pub. L. 92–500) and Pub. L. 93–243.

§ 35.905–2 Combined sewer.

A sewer intended to serve as a sanitary sewer and a storm sewer, or as an industrial sewer and a storm sewer.

§ 35.905–3 Complete waste treatment system.

A complete waste treatment system consists of all the connected treatment works necessary to meet the requirements of Title III of the Act and involved in: (a) The transport of wastewaters from individual homes or buildings to a plant or facility wherein treatment of the wastewater is accomplished; (b) the treatment of the wastewaters to remove pollutants; and (c) the ultimate disposal, including recycling or reuse, of the treated wastewaters and residues resulting from the treatment process. One complete waste treatment system would, normally, include one treatment plant or facility, but in instances where two or more treatment plants are interconnected, all of the interconnected treatment works will be considered as one waste treatment system.

§ 35.905–4 Construction.

Any one or more of the following: Preliminary planning to determine the feasibility of treatment works, engineering, architectural, legal, fiscal, or economic investigations or studies, surveys, designs, plans, working drawings, specifications, procedures or other necessary actions, erection, building, acquisition, alteration, remodeling, improvement, or extension of treatment works, or the inspection or supervision of any of the foregoing items. The phrase "initiation of construction," as used in this subpart means with reference to a project for:

(a) The preparation of a facilities plan or completion of other Step 1 elements:

(1) Prior to November 1, 1974, the execution of an agreement for any element of Step 1 project work (including facilities planning); or, if an agreement covering Step 1 work has previously been entered into, the issuance of a notice to proceed with the Step 1 work; or a work order for the execution of any element of Step 1 work;

(2) After October 31, 1974, the date of approval of a plan of study (see § 35.925–18(a)(1));

(b) the preparation of construction drawings and specifications (Step 2):

(1) Prior to November 1, 1974, the execution of an agreement for the preparation of construction drawings and specifications; or, if an agreement covering both Step 1 and Step 2 elements has been previously entered into, the issuance of a notice to proceed; or a work order for the preparation of construction drawings and specifications;

(2) After October 31, 1974, the date of approval of a facilities plan (see § 35.925–18(a)(2));

(c) the building and erection of a treatment works segment (Step 3); the issuance of a notice to proceed under a construction contract for any segment of Step 3 project work, or, if notice to proceed is not required, execution of the construction contract.

§ 35.905–5 Excessive infiltration/inflow.

The quantities of infiltration/inflow which can be economically eliminated from a sewer system by rehabilitation, as determined by a cost-effectiveness analysis that compares the costs for correcting the infiltration/inflow conditions with the total costs for transportation and treatment of the infiltration/inflow, subject to the provisions in § 35.927.

§ 35.905–6 Industrial cost recovery.

Recovery by the grantee from the industrial users of a treatment works of the grant amount allocable to the treatment of wastes from such users pursuant to section 204(b) of the Act and this subpart.

§ 35.905–7 Industrial Cost Recovery Period.

That period during which the grant amount allocable to the treatment of wastes from industrial users is recovered from the industrial users of such works.

§ 35.905–8 Industrial user.

Any nongovernmental user of publicly owned treatment works identified in the Standard Industrial Classification Manual, 1972, Office of Management and Budget, as amended and supplemented, under the following divisions:

(a) *Division A.* Agriculture, Forestry, and Fishing.

(b) *Division B.* Mining.

(c) *Division D.* Manufacturing.

(d) *Division E.* Transportation, Communications, Electric, Gas, and Sanitary Services.

(e) *Division I. Services.* A user in the Divisions listed may be excluded if it is determined that it will introduce primarily segregated domestic wastes or wastes from sanitary conveniences.

§ 35.905–9 Infiltration.

The water entering a sewer system, including sewer service connections, from the ground, through such means as, but not limited to, defective pipes, pipe joints, connections, or manhole walls. Infiltration does not include, and is distinguished from, inflow.

§ 35.905–10 Infiltration/inflow.

The total quantity of water from both infiltration and inflow without distinguishing the source.

§ 35.905–11 Inflow.

The water discharged into a sewer system, including service connections from such sources as, but not limited to, roof leaders, cellar, yard, and area drains, foundation drains, cooling water discharges, drains from springs and swampy areas, manhole covers, cross connections from storm sewers and combined sewers, catch basins, storm waters, surface run-off, street wash waters, or drainage. Inflow does not include, and is distinguished from, infiltration.

§ 35.905–12 Interceptor sewer.

A sewer whose primary purpose is to transport wastewaters from collector sewers to a treatment facility.

§ 35.905–13 Interstate agency.

An agency of two or more States established by or pursuant to an agreement or compact approved by the Congress, or any other agency of two or more States, having substantial powers or duties pertaining to the control of water pollution.

§ 35.905–14 Municipality.

A city, town, borough, county, parish, district, association, or other public body (including an intermunicipal agency of two or more of the foregoing entities) created by or pursuant to State law, or an Indian tribe or an authorized Indian tribal organization, having jurisdiction over disposal of sewage, industrial wastes, or other wastes, or a designated and approved management agency under section 208 of the Act. This definition excludes a special district, such as a school district, which does not have as one of its principal responsibilities the treatment, transport, or disposal of liquid wastes.

§ 35.905–15 Operable treatment works.

An operable treatment works is a treatment works that:

(a) Upon completion of construction will treat wastewater, transport wastewater to or from treatment, or transport and dispose of wastewater in a manner which will significantly improve an objectionable water quality related situation or health hazard in existence prior to construction of the treatment works, and

(b) Is a component part of a complete waste treatment system which, upon completion of construction for the complete waste treatment system (or completion of construction of other treatment works in the system in accordance with a schedule approved by the Regional Administrator) will comply with all applicable statutory and regulatory requirements.

§ 35.905–16 Project.

The scope of work for which Federal assistance is awarded by a grant or grant amendment pursuant to this subpart. For the purposes of this subpart, the scope of work is defined as Step 1, Step 2, or Step 3 of treatment works construction or segments thereof (see § 35.905–24 and § 35.930–4).

§ 35.905–17 Replacement.

Expenditures for obtaining and installing equipment, accessories, or appurtenances which are necessary during the service life of the treatment works to maintain the capacity and performance for which such works were designed and constructed. The term "operation and maintenance" includes replacement.

§ 35.905–18 Sanitary sewer.

A sewer intended to carry only sanitary or sanitary and industrial waste waters from residences, commercial buildings, industrial plants, and institutions.

§ 35.905–19 Sewage collection system.

For the purpose of § 35.925–13 of this subpart, each, and all, of the common lateral sewers, within a publicly-owned treatment system, which are primarily installed to receive wastewaters directly from facilities which convey wastewater from individual structures or from private property, and which include service connection "Y" fittings designed for connection with those facilities. The facilities which convey wastewater from individual structures or from private property to the public lateral sewer, or its equivalent, are specifically excluded from the definition, with the exception of pumping units, and pressurized lines, for individual structures or groups of structures when such units are cost effective and are owned and maintained by the grantee.

§ 35.905–20 State.

A State, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Trust Territory of the Pacific Islands.

§ 35.905–21 State agency.

The State water pollution control agency designated by the Governor having responsibility for enforcing State laws relating to the abatement of pollution.

§ 35.905–22 Storm sewer.

A sewer intended to carry only storm waters, surface run-off, street wash waters, and drainage.

§ 35.905–23 Treatment works.

Any devices and systems used in the storage, treatment, recycling, and reclamation of municipal sewage or industrial wastes of a liquid nature to implement section 201 of the act, or necessary to recycle or reuse water at the most economical cost over the useful life of the works, including intercepting sewers, outfall sewers, sewage collection systems, pumping, power, and other equipment and their appurtenances; extensions, improvement, remodeling, additions, and alterations thereof; elements essential to provide a reliable recycled supply such as standby treatment units and clear well facilities; and any works, including site acquisition of the land that will be an integral part of the treatment process or is used for ultimate disposal or residues resulting from such treatment; or any other method or system for preventing, abating, reducing, storing, treating, separating, or disposing of municipal waste, including storm water run-off, or industrial waste, including waste in combined storm water and sanitary sewer systems.

§ 35.905–24 Treatment Works Segment.

A treatment works segment may be any portion of an operable treatment works described in an approved facilities plan, pursuant to § 35.917, and which can be identified as a discrete contract or subcontract for Step 1, 2, or 3 work. Completion of construction of a treatment works segment may, but need not, result in an operable treatment works.

§ 35.905–25 Useful life.

Estimated period during which a treatment works will be operated.

§ 35.903–26 User charge.

A charge levied on users of a treatment works for the cost of operation and maintenance of such works, pursuant to Section 204(b) of the Act and this subpart.

§ 35.905 Advanced technology and accelerated construction techniques.

It is the policy of the Environmental Protection Agency to encourage and, where possible, to assist in the development of accelerated construction techniques and new or advanced processes, methods, and technology for the construction of waste treatment works. New or advanced processes or methods may be utilized in the construction of treatment works under this subpart. New technology or processes may be developed or demonstrated with the assistance of EPA research or demonstration grants awarded under Title I of the Act. New processes or methods which have been successfully demonstrated under less than full scale conditions may be utilized in the construction of treatment works under this subpart.

§ 35.910 Allocation of funds.

§ 35.910–1 Allotment.

Allotments shall be made among the States from funds authorized to be appropriated pursuant to section 207 in the ratio that the most recent congressionally approved estimate of the cost of constructing all needed publicly owned treatment works in each State bears to the most recent congressionally approved estimate of the cost of construction of all needed publicly owned treatment works in all of the States. Computation of a State's ratio shall be carried out to the nearest ten thousandth percent (0.0001 percent) and allotted amounts will be rounded to the nearest thousand dollars except for Fiscal Year 1975 which will be rounded to the nearest fifty dollars.

§ 35.910–3 Reallotment.

(a) Sums allotted to a State under § 35.910–1 shall be available for obligation on and after the date of such allotment and shall continue to be available to such State for a period of one year after the close of the fiscal year for which such sums are authorized. Funds remaining unobligated at the end of the allotment period will be immediately reallotted by the Administrator, on the basis of the most recent allotment ratio to those States which have used their full allotment.

(b) Reallotted sums shall be added to the last allotments made to the States and shall be in addition to any other funds otherwise allotted, and be available for obligation in the same manner and to the same extent as such last allotment.

(c) Any sums which have been obligated under this subpart which remain after final payment, or after termination of a project, shall be credited to the State to which such sums were last allotted. Such released sums shall be added to the amounts last allotted to such State and shall be available for obligation in the same manner and to the same extent as such last allotment.

§ 35.910–3 Fiscal Years 1973 and 1974 Allotments.

(a) For Fiscal Years ending June 30, 1973 and June 30, 1974, sums of $3 billion and $3 billion, respectively, have been allotted on the basis of Table III of House Public Works Committee Print No. 92–50.

(b) The percentages used in computing the State allotments set forth in paragraph (c) of this section for Fiscal Years 1973 and 1974 are as follows:

State	Percentage	State	Percentage
Alabama	0.8913	North Carolina	.9220
Alaska	.2226	North Dakota	.0457
Arizona	.1246	Ohio	5.7787
Arkansas	.3896	Oklahoma	.4606
California	9.6178	Oregon	.8694
Colorado	.3166	Pennsylvania	5.4214
Connecticut	1.6810	Rhode Island	.4269
District of Columbia	.7114	South Carolina	.6488
Delaware	.4568	South Dakota	.0048
Florida	3.6984	Tennessee	1.1806
Georgia	.9730	Texas	2.7994
Hawaii	.2908	Utah	.1408
Idaho	.2177	Vermont	.2218
Illinois	6.2480	Virginia	2.0143
Indiana	2.9068	Washington	.8906
Iowa	1.1897	West Virginia	.4899
Kansas	.8743	Wisconsin	1.7618
Kentucky	.6899	Wyoming	.0363
Louisiana	.9498	Guam	.0272
Maine	0.9676	Puerto Rico	.8648
Maryland	4.2582	Virgin Islands	.0293
Massachusetts	3.7576	American Samoa	.0048
Michigan	7.9814	Trust Territory of Pacific Islands	.0078
Minnesota	3.0610		
Mississippi	.3986		
Missouri	1.6886		
Montana	.1988		
Nebraska	.3708		
Nevada	.0877		
New Hampshire	.2908		
New Jersey	7.7049		
New Mexico	.2108		
New York	11.0878		100.0000

(c) Based upon the percentages, the sums allotted to the States as of July 1, 1973, for Fiscal Years 1973 and 1974 are as follows:

State	Fiscal year 1973	Fiscal year 1974
Alabama	27,324,000	$18,888,000
Alaska	4,284,000	6,734,000
Arizona	3,822,000	4,686,000
Arkansas	7,973,000	10,083,000
California	198,262,000	264,528,000
Colorado	9,688,000	9,648,000
Connecticut	22,020,000	30,420,000
Delaware	13,100,000	19,896,000
District of Columbia	14,700,000	21,342,000
Florida	72,936,000	103,792,000
Georgia	19,680,000	29,190,000
Hawaii	6,648,000	9,000,000
Idaho	6,264,000	6,581,000
Illinois	128,970,000	197,697,000
Indiana	57,804,000	100,986,000
Iowa	23,114,000	34,671,000
Kansas	7,494,000	11,238,000
Kentucky	13,196,000	19,797,000
Louisiana	18,888,000	28,884,000
Maine	19,260,000	29,025,000
Maryland	88,184,000	127,746,000
Massachusetts	75,152,000	112,728,000
Michigan	156,888,000	239,442,000
Minnesota	60,888,000	90,907,000
Mississippi	7,878,000	11,988,000
Missouri	33,112,000	49,668,000
Montana	3,894,000	4,988,000
Nebraska	7,416,000	11,124,000
Nevada	5,784,000	6,681,000
New Hampshire	16,818,000	24,997,000
New Jersey	150,888,000	731,130,000
New Mexico	4,218,000	6,324,000
New York	221,186,000	331,784,000
North Carolina	18,448,000	27,667,000
North Dakota	894,000	1,401,000
Ohio	113,471,000	172,211,000
Oklahoma	9,216,000	13,824,000
Oregon	16,988,000	25,482,000
Pennsylvania	106,488,000	162,642,000
Rhode Island	8,778,000	14,667,000
South Carolina	12,810,000	19,284,000
South Dakota	1,888,000	2,844,000
Tennessee	23,210,000	84,815,000
Texas	55,288,000	83,082,000
Utah	2,818,000	4,284,000
Vermont	4,488,000	6,684,000
Virginia	39,588,000	97,439,000
Washington	17,812,000	26,718,000
West Virginia	9,888,000	14,997,000
Wisconsin	34,888,000	52,248,000
Wyoming	684,000	804,000
Guam	1,744,000	2,616,000
Puerto Rico	17,888,000	26,586,000
Virgin Islands	1,788,000	2,679,000
American Samoa	96,000	144,000
Trust Territory of Pacific Islands	784,000	1,184,000
Total	2,000,000,000	3,000,000,000

§ 35.910–4 Fiscal Year 1975 Allotments.

(a) For the Fiscal Year ending June 30, 1975, a sum of $4 billion has been a lotted based 50 percent on the ratios o. Table I and 50 percent of Table II of House Public Works Committee Print No. 93–28, pursuant to Pub. L. 93–243.

(b) The percentages used in computing the State allotments set forth in paragraph (c) of this section, for Fiscal Year 1975 are as follows:

State	Percentage	State	Percentage
Alabama	0.8916	Delaware	0.3648
Alaska	0.2226	District of Columbia	0.9724
Arizona	0.4000	Florida	4.1000
Arkansas	0.6000	Georgia	1.3000
California	11.6848	Hawaii	0.4468
Colorado	0.7997	Idaho	0.2000
Connecticut	1.7997		

State	Percentage	State	Percentage
Illinois	6.4173	Pennsylvania	5.6638
Indiana	1.6196	Rhode Island	9.5506
Iowa	1.0012	South Carolina	1.4222
Kansas	1.0838	South Dakota	0.9907
Kentucky	1.6879	Tennessee	1.3998
Louisiana	0.7345	Texas	1.0594
Maine	0.4570	Utah	0.4817
Maryland	1.3767	Vermont	0.3601
Massachusetts	3.2945	Virginia	2.5096
Michigan	4.7978	Washington	1.6463
Minnesota	1.6241	West Virginia	0.9508
Mississippi	0.8388	Wisconsin	1.2317
Missouri	1.9950	Wyoming	0.0783
Montana	0.1421	Guam	0.0478
Nebraska	0.5514	Puerto Rico	1.0998
Nevada	0.4758	Virgin Islands	0.0796
New Hampshire	0.5020	American Samoa	0.0147
New Jersey	6.4789	Trust Territory of the Pacific Islands	0.0133
New Mexico	0.1589		
New York	12.4798		
North Carolina	1.7089		
North Dakota	0.0818		
Ohio	4.9194		
Oklahoma	1.1958		
Oregon	0.8892		

(c) Based upon the percentages set forth in paragraph (b) of this section and allotment adjustments the sums allotted to the States as of January 1, 1974, are as follows:

Alabama	$33,788,150
Alaska	18,089,150
Arizona	17,696,750
Arkansas	23,900,100
California	457,420,100
Colorado	30,920,920
Connecticut	89,542,900
Delaware	21,615,300
District of Columbia	38,223,900
Florida	184,496,400
Georgia	78,168,000
Hawaii	41,140,000
Idaho	7,998,400
Illinois	288,911,700
Indiana	83,678,100
Iowa	39,364,800
Kansas	40,198,800
Kentucky	68,188,600
Louisiana	38,551,800
Maine	26,227,000
Maryland	54,128,100
Massachusetts	90,215,900
Michigan	188,687,400
Minnesota	64,247,900
Mississippi	32,968,700
Missouri	74,868,400
Montana	7,594,600
Nebraska	20,894,000
Nevada	18,693,000
New Hampshire	25,072,950
New Jersey	294,656,900
New Mexico	10,670,500
New York	490,694,900
North Carolina	70,494,200
North Dakota	6,676,100
Ohio	193,578,700
Oklahoma	48,997,400
Oregon	34,196,700
Pennsylvania	222,744,100
Rhode Island	39,594,600
South Carolina	55,992,000
South Dakota	7,905,000
Tennessee	48,271,800
Texas	108,900,300
Utah	18,979,600
Vermont	11,600,200
Virginia	98,972,400
Washington	64,730,900
West Virginia	$37,736,700
Wisconsin	52,200,400
Wyoming	4,948,400
Guam	2,173,000
Puerto Rico	46,592,900
Virgin Islands	3,190,900
American Samoa	676,700
Trust Territory of Pacific Islands	604,200

Allotment adjustment has been made for those States that would receive an allotment that would be less than their Fiscal Year 1972 allotment. The allotment of those States which fall below their Fiscal Year 1972 allotment will be restored to their Fiscal Year 1972 allotment using funds from the total allotment. Remaining funds will be allocated to States (excluding the States with allotment adjustment) based on adjusted percentages. Minimum allotment amounts are determined on the basis of Table III of House Public Works Committee Print 93-28.

§ 35.912 Delegation to State agencies.

It is the policy of the Environmental Protection Agency to utilize staff capabilities of State agencies to the maximum extent practicable through optimum utilization of available State and Federal resources and to eliminate unnecessary duplicative reviews of documents that are required as a part of the construction grant process. Accordingly, the Regional Administrator may enter into a written agreement, where appropriate, with a State agency within his Region for certification by the State agency of the technical and/or administrative adequacy of specified documents: *Provided*, That an applicant or grantee may request review by the Regional Administrator of an adverse recommendation by a State agency.

§ 35.913 State determination of project priority list.

Construction grants will be awarded from allotments available pursuant to § 35.910 in accordance with the approved State project priority list which is derived from the approved State priority system.

(a) *State priority system.* The State priority system must be designed to achieve optimum water quality improvement consistent with the goals and requirements of the Act. It shall be submitted and revised in accordance with Subpart B of this part.

(b) *State municipal discharge inventory.* Pursuant to § 130.43 of this Chapter, the State agency shall prepare a municipal discharge inventory which sets forth for the entire State a ranking of all significant municipal discharges (including, for example, eligible municipal septic systems). Such list must be submitted as part of the annual State program for the approval of the Regional Administrator under § 35.587. This State municipal discharge inventory shall be updated annually and submitted with the State program pursuant to § 35.585 of this part.

(c) *Project priority list.* The State agency shall prepare a listing of the projects for which Federal assistance may be requested. This listing should include a sufficient number of projects to permit funding to proceed in an orderly fashion through the period between the next allotment of construction grant funds to the next approval of a revised project priority list. The Regional Administrator shall consider for approval that portion of the project priority list from which grant awards may be made from currently available allotments, pursuant to the approval procedures of § 35.585.

(1) In determining which projects to fund the State shall consider the severity of pollution problems, the population affected, the need for preservation of high quality waters, and national priorities as well as total funds available, project and treatment works sequence and additional factors identified by the State in its priority system. The list of projects to be funded should be developed in conjunction with the municipal discharge inventory. It should be consistent with the municipal discharge inventory but need not rigidly follow the ranking of discharges in the inventory. The net result should be a concentration of projects to be funded in high priority areas. The Regional Administrator may require the State agency to explain the basis for priority determination for specific projects located in low priority areas (e.g., court orders, critical dischargers on lower priority segments, etc.).

(2) The project priority list shall set forth, as a minimum, the following information for each project:

(i) Name of municipality;

(ii) State assigned EPA project number;

(iii) Brief description of type of project and anticipated scope of project (Step 1, 2, or 3 or combination thereof);

(iv) Estimated total project cost; and

(v) Estimated Federal assistance.

(3) A project which is included within the approved portion of the list shall retain its priority until a grant is awarded, unless the State otherwise provides through its priority system. Accordingly, in developing a revised list, the State must generally include thereon all projects from the approved portion of the prior list or amendments thereto for which grant assistance has not been awarded at the time the revision is prepared. The priority for all other projects will be determined in accordance with the approved State priority system.

(4) A project will be removed from the project priority list if (i) the project has been fully funded, (ii) a final and conclusive determination of project ineligibility has been made by the Regional Administrator, or (iii) the project has been removed by the State through amendment or revision of the list.

(5) In order to provide a list of projects which can be funded from available allotments in the period after January 1, 1974, until the approval of the next list, a State may add projects to the approved fiscal year 1974 list. Projects for which fiscal year 1975 contract authority will

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be utilized must be identified since projects initially funded with fiscal year 1975 funds will be subject to best practicable waste treatment technology requirements (see § 35.936-4).

(d) *Submission, amendment and approval of project priority list.* The project list shall be submitted and approved annually as part of the State Program and may be amended pursuant to § 35.555 and § 35.567.

(e) *Application of additional funds.* If the State has submitted a project priority list containing more projects than could be funded under the original allotment, upon allocation of additional funds, the Regional Administrator's approval of the project priority list will be extended to the required number of projects. If there is an insufficient number of projects on the list, projects may be added to the list, pursuant to §§ 35.555 and 35.567 to account for additional funds which are available.

(f) *Public participation.* The Regional Administrator may not approve a project priority list or any significant amendment thereto unless he determines that a public hearing pursuant to § 35.556 of this Part has been held on such list prior to approval. This public hearing may be conducted in conjunction with a regular public meeting of the State agency, provided that adequate and timely Statewide notice of the meeting, including publication of the proposed project priority list is given, and attendees at the meeting are afforded adequate opportunity to express their views concerning the list. A public hearing is not required with respect to any amendment of the list (including deletion of a project) which the State agency and the Regional Administrator agree is not significant.

(g) *Reserve for grant increases.* In developing the project priority list the State must make provision for grant increases for projects awarded grant assistance under this subpart. A reasonable portion, not less than five percent, of each allotment for fiscal year 1975 and later years made pursuant to § 35.910 shall be reserved for grant amendments to increase grant amounts pursuant to §§ 35.935-11 and 35.965. A statement specifying the amount to be reserved for grant amendments shall be submitted by the State with the project priority list. The reserve period must be for not more than eighteen months after the date of such allotment. If any of the reserved amount remains, this amount may be utilized for the funding of additional projects, in accordance with the procedures set forth in paragraph (e) of this section.

(h) *Grant increases.* The Regional Administrator may approve a grant increase, upon application by the grantee, and upon written confirmation by the State for each application, that the grant increase is justified. The grant increases will be made from the amount reserved, by the State, for that purpose, from currently available allotments pursuant to paragraph (g) of this section.

(i) *Reserve for Step 1 and Step 2 Projects.* In developing the project priority list, the State may (but need not) make provision for an additional reserve for grant assistance for Step 1 and Step 2 projects whose selection for funding will be determined by the State agency subsequent to approval of the project list. A reasonable portion, but not more than ten percent, of each allotment for fiscal year 1975 and later years made pursuant to § 35.910 may be reserved for this purpose. A statement specifying the amount to be reserved for such grant assistance shall be submitted by the State with the project priority list. The reserve period may be for not more than eighteen months after the date of such allotment. If any of the reserved amount remains, this amount may be utilized for the funding of additional projects, in accordance with the procedures set forth in paragraph (e) of this section. The funding of Step 1 and Step 2 projects from this reserve should be consistent with the approved State strategy and should be developed in conjunction with, but need not rigidly follow, the ranking in the municipal discharge inventory.

§ 35.917 Facilities Planning (Step 1)

(a) These regulations set forth the facilities planning required as an element of the construction of publicly owned wastewater treatment works and supplement other provisions of this subpart.

(b) Facilities planning consists of those necessary plans and studies which are directly related to the construction of treatment works, in compliance with section 201 and 303 of the Act. Facilities planning will demonstrate the need for the proposed facilities and, by a systematic evaluation of feasible alternatives, will also demonstrate that the proposed measures represent the most cost-effective means of meeting established effluent and water quality goals, recognizing environmental and social considerations.

(c) Facilities planning, determined by the Regional Administrator to have been initiated prior to May 1, 1974, must be in accordance with applicable statutory requirements (see §§ 35.925-7 and 35.925-8), and such other requirements of this subpart as may be determined to be appropriate by the Regional Administrator.

(d) Full compliance with the facilities planning provisions of this subpart will be required prior to award of grant assistance for Step 2 or Step 3 where the Regional Administrator determines such planning was initiated (as determined pursuant to §§ 35.905-4 and 35.925-18) after April 30, 1974.

Grant assistance for Step 2 or 3 may be awarded prior to approval of a facilities plan for the entire geographic area to be served by the complete waste treatment system of which the proposed treatment works will be an integral part if the Regional Administrator determines that applicable statutory requirements have been met (see § 35.925-7 and 35.925-8); that the facilities planning relevant to the proposed Step 2 or 3 project has been substantially completed; and that the Step 2 or 3 project for which grant assistance is made will not be significantly affected by the completion of the facilities plan and will be a component part of the complete system: *Provided*, That the applicant agrees to complete the facilities plan on a schedule the State accepts (subject to approval by the Regional Administrator), which schedule shall be inserted as a special condition in the grant agreement.

(e) After October 31, 1974, written approval of a plan of study (see § 35.925-8 (a)(1)) must be obtained prior to initiation of facilities planning. After June 30, 1975, facilities planning may not be initiated prior to approval of a Step 1 grant or approval of a plan of study accompanied by reservation of funds for a Step 1 grant (see §§ 35.925-18 and 35.905-4).

(f) Facilities planning guidelines published by the Administrator are for advisory information only.

(g) If the information required to be furnished as part of a facilities plan has been developed separately, it should be furnished and incorporated by reference in the facilities plan. Planning previously or collaterally accomplished under local, State or Federal programs will be utilized (not duplicated).

§ 35.917-1 Content of Facilities Plan.

Facilities planning which is initiated after April 30, 1974, must encompass the following to the extent deemed appropriate by the Regional Administrator:

(a) A description of the treatment works for which construction drawings and specifications are to be prepared. This description shall include preliminary engineering data, cost estimates for design and construction of the treatment works, and a schedule for completion of design and construction. The preliminary engineering data may include, to the extent appropriate, such information as a schematic flow diagram, unit processes, design data regarding detention times, flow rates, sizing of units, etc.

(b) A description of the selected complete waste treatment system(s) of which the proposed treatment works is a part. The description shall cover all elements of the system, from the service area and collection sewers, through treatment, to the ultimate discharge of treated wastewaters and disposal of sludge.

(c) Infiltration/inflow documentation in accordance with § 35.927.

(d) A cost-effectiveness analysis of alternatives for the treatment works and for the waste treatment system(s) of which the treatment works is a part. The selection of the system(s) and the choice of the treatment works on which construction drawings and specifications are to be based shall reflect the cost-effectiveness analysis. This analysis shall include:

(1) The relationship of the size and capacity of alternative works to the needs to be served, including reserve capacity;

(2) An evaluation of alternative flow and waste reduction measures;

(3) An evaluation of improved effluent quality attainable by upgrading the operation and maintenance and efficiency of existing facilities as an alternative or supplement to construction of new facilities;

(4) An evaluation of the capability of each alternative to meet applicable effluent limitations. The treatment works design must be based upon not less than secondary treatment as defined by the Administrator pursuant to sections 301 (a)(1)(B) and 304(d)(1) of the Act;

(5) An identification of, and provision for, applying the best practicable waste treatment technology (BPWTT) as defined by the Administrator, based upon an evaluation of technologies included under each of the following waste treatment management techniques:

(i) Biological or physical-chemical treatment and discharge to receiving waters;

(ii) Treatment and reuse; and

(iii) Land application techniques.

All Step 2, Step 3 or combination Step 2–3 projects for publicly-owned treatment works construction from funds authorized for any fiscal year beginning after June 30, 1974, shall be based upon application of BWPTT, as a minimum. Where application of BPWTT would not meet water quality standards, the facilities plan shall provide for attaining such standards. Such provision shall consider the alternative of treating combined sewer overflows.

(6) An evaluation of the alternative means by which ultimate disposal can be effected for treated wastewater and for sludge materials resulting from the treatment process, and a determination of the means chosen.

(7) An adequate assessment of the expected environmental impact of alternatives including sites pursuant to Part 6 of this Chapter. This assessment shall be revised as necessary to include information developed during subsequent project steps.

(e) An identification of effluent discharge limitations, or where a permit has been issued, a copy of the permit for the proposed treatment works as required by the National Pollution Discharge Elimination System.

(f) Required comments or approvals of relevant State, interstate, regional, and local agencies.

(g) A brief summary of any public meeting or hearing held during the planning process including a summary of the views expressed.

(h) A brief statement demonstrating that the authorities which will be implementing the plan have the necessary legal, financial, institutional, and managerial resources available to insure the construction, operation, and maintenance of the proposed treatment works.

(i) A statement specifying that the requirements of Title VI of the Civil Rights Act of 1964 and of Part 7 of this chapter have been satisfied.

§ 35.917–2 State Responsibilities.

(a) *Facilities planning areas.* Facilities planning should focus upon the geographic area to be served by the waste treatment system(s) of which the proposed treatment works will be an integral part. The facilities plan should include that area deemed necessary to prepare an environmental assessment and to assure that the most cost-effective means of achieving the established water quality goals can be planned for and implemented. To assure that facilities planning initiated after April 30, 1974, subsequent to award of a Step 1 grant therefor, and all facilities planning initiated after October 31, 1974, will include the appropriate geographic areas, the State shall:

(1) Delineate, as a preliminary basis for planning, the boundaries of the planning areas. In the determination of each area, appropriate attention should be given to including the entire area where cost savings, other management advantages, or environmental gains may result from interconnection of individual waste treatment systems or collective management of such systems.

(2) Include maps, which shall be updated annually, showing the identified areas and boundary determinations as part of the State submission under section 106 of the Act.

(3) Consult with local officials in making the area and boundary determinations.

(b) *Facilities planning priorities.* The State shall establish funding priorities for facilities planning in accordance with §§ 35.915 and 35.554–3(a)(1).

§ 35.917–3 Federal assistance.

(a) *General.* Facilities planning initiated after April 30, 1974, subsequent to award of a Step 1 grant therefor, and all facilities planning initiated after October 31, 1974, must be developed pursuant to a plan of study (see § 35.920–3(a)(1) approved in accordance with the requirements of this subpart prior to initiation of the facilities planning. A preapplication conference may be held in accordance with § 35.920–2.

(1) An applicant may apply for a grant for a Step 1 project for the preparation of a facilities plan, or any component part, and for other Step 1 elements required to submit a complete application for a Step 2 project (see § 35.920–3(b)). Alternatively, to the extent permitted by § 35.925–18, a grantee may be reimbursed for facilities planning costs and other Step 1 elements for which reasonable costs have been incurred in accordance with this subpart, in conjunction with the award of a grant for the subsequent Step 2, Step 2–3, or Step 3 projects.

(2) State priority determination in accordance with the approved State priority system pursuant to § 35.915 is required for Step 1 projects, just as in the case of Step 2 or Step 3 projects.

(b) *Eligibility.* Only an applicant which is eligible to receive grant assistance for subsequent phases of construction (Steps 2 and 3) and which has the legal authority to subsequently construct and manage the facility may apply for grant assistance for Step 1. If the area to be covered by the facilities plan includes more than one political jurisdiction, a grant may be awarded for a Step 1 project, as appropriate, (1) to the joint authority representing such jurisdictions, if eligible; (2) to one qualified (lead agency) applicant; or (3) to two or more eligible jurisdictions.

(c) *Payment.* Where a grant has been awarded for the preparation of a facilities plan or other Step 1 elements, the payment schedule in the grant agreement will provide for payment upon completion of the Step 1 work or upon completion of specified tasks within the scope of the project.

(d) *Reports.* Where a grant has been awarded for facilities planning, the completion of which is expected to require more than one year, the grantee must submit a brief progress report to the Regional Administrator at three-month intervals. The progress report is to contain a minimum of narrative description, and if to describe progress in completing the approved schedule of specific tasks for the project.

§ 35.917–4 Planning scope and detail.

(a) Initially, the geographic scope of all facilities planning initiated after October 31, 1974, or facilities planning initiated after April 30, 1974, subsequent to award of a Step 1 grant therefor, shall be based upon the area delineated by the State pursuant to § 35.917–2, subject to review by the Regional Administrator. The Regional Administrator may make the preliminary delineation of the boundaries of the planning area, if the State has not done so, or may revise boundaries selected by the locality or State agency, after appropriate consultation with State and local officials.

(b) Facilities planning shall be conducted only to the extent that the Regional Administrator determines to be necessary to insure that facilities for which grants are awarded will be cost-effective and environmentally sound and to permit reasonable evaluation of grant applications and subsequent preparation of designs, construction drawings and specifications.

§ 35.917–5 Public participation.

(a) Public participation in the facilities planning process shall be consistent with Part 105 of this chapter. One or more public hearings or meetings should be held within the area to obtain public advice at the beginning of the planning process. All governmental agencies and other parties which are known to be concerned or may have an interest in the plan shall be invited to participate.

(b) A public hearing shall be held prior to the adoption of the facilities plan by the implementing governmental units. This provision shall apply to all facilities planning initiated after April 30, 1974. This public hearing for the

facilities plan may satisfy the grantee hearing requirement of Part 6 of this chapter. The Regional Administrator may require the planning entity to hold additional public hearings, if needed, to more fully discuss the plan and alternatives or to afford concerned interests adequate opportunity to express their views.

(c) The time and place of the public hearing shall be conspicuously and adequately announced, generally at least 30 days in advance. In addition, a description of the water quality problems and the principal alternatives considered in the planning process shall be displayed at a convenient local site sufficiently prior to the hearing (approximately 15 days).

(d) Appropriate local and State agencies, State and regional clearinghouses, interested environmental groups and appropriate local public officials should receive written notice of public hearings.

(e) A request to waive the hearings on a facilities plan may be submitted to the Regional Administrator in writing prior to submission of the plan. Any such request will be acted upon within 30 days by the Regional Administrator. Each request must include a brief description of the alternatives, the area that will be serviced, the scope and dates of meetings and hearings previously held, and the reasons the grantee feels a public hearing would not serve the public interest.

§ 35.917–6 Acceptance by implementing governmental units.

A facilities plan submitted for approval shall include adopted resolutions or, where applicable, executed agreements of the implementing governmental units or management agencies providing for acceptance of the plan, or assurances that it will be carried out, and statements of legal authority necessary for plan implementation. Any departures from these requirements may be approved by the Regional Administrator prior to plan submission.

§ 35.917–7 State review and certification of facilities plan.

Each facilities plan must be submitted to the State agency for review. The State must certify that (a) the plan conforms with the requirements set forth in this subpart; (b) the plan conforms with any existing final basin plans approved under section 303(e) of the Act; (c) any concerned 208 planning agency has been afforded the opportunity to comment upon the plan; and (d) the plan conforms with any waste treatment management plan approved pursuant to section 208(b) of the Act.

§ 35.917–8 Submission and approval of facilities plan.

The completed facilities plan must be submitted by the State agency and approved by the Regional Administrator. Where deficiencies in a facilities plan are discovered, the Regional Administrator shall promptly notify the State and the grantee or applicant in writing of the nature of such deficiencies and of the recommended course of action to correct such deficiencies. Approval of a plan of study or a facilities plan will not constitute an obligation of the United States for any Step 2, Step 3, or combination Steps 2 and 3 project.

§ 35.917–9 Revision or amendment of facilities plan.

A facilities plan may include more than one Step 3 project and provide the basis for several subsequent Step 2, Step 2–3, or Step 3 projects. A facilities plan which has served as the basis for the award of a grant for a Step 2, Step 2–3, or Step 3 project shall be reviewed prior to the award of any grant for a subsequent project involving Step 2 or Step 3 to determine if substantial changes have occurred. If in the judgment of the Regional Administrator substantial changes have occurred which warrant revision or amendment, the plan shall be revised or amended and submitted for review in the same manner specified in this subpart.

§ 35.920 Grant application.

Grant applications will be submitted and evaluated in accordance with Part 30, Subpart B of this chapter.

§ 35.920–1 Eligibility.

Municipalities, intermunicipal agencies, States, or interstate agencies may apply for grant assistance.

§ 35.920–2 Procedure.

Preapplication assistance, including, where appropriate, a preapplication conference, should be requested from the State agency or the appropriate EPA Regional Office for each project for which State priority has been determined. An application must be submitted to the State agency for each proposed treatment works. The basic application shall meet the requirements for the project set forth in § 35.920–3. Submissions required for subsequent related projects shall be provided in the form of amendments to the basic application. Each such submission shall be submitted through the State agency, must be complete (see § 35.920–3), and must relate to a project for which priority has been determined in accordance with § 35.915. If any information required pursuant to § 35.920–3 has been furnished with an earlier application, the applicant need only incorporate by reference and, if necessary update or revise such information utilizing the previously approved application.

§ 35.920–3 Contents of application.

(a) *Step 1.* Facilities plan and related elements required to apply for Step 2 grant assistance. An application for a grant for Step 1 shall include:

(1) A plan of study presenting (i) the proposed planning area; (ii) an identification of the entity or entities that will be conducting the planning; (iii) the nature and scope of the proposed Step 1 project, including a schedule for the completion of specific tasks; and (iv) an itemized description of the estimated costs for the project;

(2) Proposed subagreements, or an explanation of the intended method of awarding subagreements for performance of any substantial portion of the project work;

(3) Required comments or approvals of relevant State, local, and Federal agencies (including "clearinghouse" requirements of OMB Circular A–95, promulgated at 38 FR 32874 on November 28, 1973).

(b) *Step 2.* Preparation of construction drawings and specifications. Prior to the award of a grant or grant amendment for a Step 2 project, the following must have been furnished:

(1) A facilities plan (including an environmental assessment in accordance with Part 6 of this chapter) in accordance with §§ 35.917 through 35.917–9.

(2) Satisfactory evidence of compliance with the user charge provisions of §§ 35.925–11 and 35.935–13;

(3) Satisfactory evidence of compliance with the industrial cost recovery provisions of §§ 35.925–12, 35.928, and 35.935–13, if applicable;

(4) A statement regarding availability of the proposed site, if relevant;

(5) Satisfactory evidence of a proposed or existing program for compliance with the Relocation and Land Acquisition Policies Act of 1970 in accordance with § 30.403(d) and Part 4 of this chapter, if applicable;

(6) Satisfactory evidence of compliance with other applicable Federal statutory and regulatory requirements (see Part 30, Subpart C of this chapter);

(7) Proposed subagreements or an explanation of the intended method of awarding subagreements for performance of any substantial portion of the project work.

(8) Required comments or approvals of relevant State, local, and Federal agencies (including "clearinghouse" requirements of OMB Circular A–95) if a grant application has not been previously submitted.

(c) *Step 3.* Building and erection of a treatment works. Prior to the award of a grant or grant amendment for a Step 3 project, each of the items specified in paragraph (b) of this section, and in addition (1) two sets of construction drawings and specifications, suitable for bidding purposes, and (2) a schedule for or evidence of compliance with §§ 35.925–10 and 35.935–12 concerning an operation and maintenance program, must have been furnished.

d) *Step 2/3.* Design/Construct Project. Prior to the award of a grant or grant amendment for a design/construct project the items in paragraphs (b) and (c) of this section must have been furnished, except that, in lieu of construction drawings and specifications, the proposed performance specifications and other relevant design/construct criteria for the project must have been submitted.

(e) *Training facility project.* An application for grant assistance for construction of a training facility pursuant to section 109(b) of the Act shall include (1) a statement concerning the suitability of the treatment works facility for

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training operation and maintenance personnel for treatment works throughout one or more States; (2) a written commitment from the State agency or agencies to carry out at such facility a program of training approved by the Regional Administrator; and (3) an engineering report, including facility design data, cost estimates for design and construction of the facility, and a schedule for completion of design and construction.

§ 35.925 Limitations on award.

Before awarding initial grant assistance for any project for a treatment works through a grant or grant amendment, the Regional Administrator shall determine that all of the applicable requirements of § 35.930-3 have been met and shall further determine:

§ 35.925-1 Facilities planning.

That the facilities planning requirements set forth in §§ 35.917 through 35.917-9 have been met. Requirements set forth in § 35.150-1 and § 35.150-2 are not applicable.

§ 35.925-2 Basin plan.

That such works are in conformity with any applicable final basin plan approved in accordance with section 303 (e) of the Act.

§ 35.925-3 Priority determination.

That such works have been determined to be entitled to priority in accordance with § 35.915, and that the award of grant assistance for the proposed project will not jeopardize the funding of any treatment works of higher priority.

§ 35.925-4 State allocation.

That the award of grant assistance for the project will not cause the total of all grant assistance awarded to applicants within a State, including grant increases, to exceed the total of all allotments and reallotments available to such State pursuant to § 35.910.

§ 35.925-5 Funding and other capabilities.

That the applicant has:

(a) Agreed to pay the non-Federal project costs, and

(b) Has the legal, institutional, managerial, and financial capability to insure adequate construction, operation, and maintenance of the treatment works throughout the applicant's jurisdiction.

§ 35.925-6 Permits.

THAT if the award is for a Step 2, Step 3, or combination Step 2 and 3 project, the applicant has provided an identification of effluent discharge limitations or, if available, a copy of a permit as required by the National Pollution Discharge Elimination System.

§ 35.925-7 Design.

That the treatment works design will be (in the case of projects involving Step 2) or has been (in the case of projects for Step 3) based upon the following:

(a) The design, size, and capacity of such works are cost effective and relate directly to the needs to be served by such works, including adequate reserve capacity;

(b) Such works will meet applicable effluent limitations and attain not less than secondary treatment as defined by the Administrator pursuant to section 301(b)(1)(B) and 304(d)(1) of the Act (See Part 133 of this chapter), subject to the limitations set forth in § 35.930-4;

(c) The infiltration/inflow requirements of § 35.927 have been met; and

(d) If the initial grant assistance for the project is to be awarded from funds authorized for any fiscal year beginning after June 30, 1974, subject to the limitations set forth in § 35.930-4; (1) alternative waste treatment management techniques have been studied and evaluated to provide for the application of the best practicable waste treatment technology over the life of the works consistent with the purposes of Title II of the Act, and (2) the design has, as appropriate, taken into account and allowed to the extent practicable for the application of technology, at a later date, which will provide for the reclaiming or recycling of water or otherwise eliminate the discharge of pollutants.

§ 35.925-8 Environmental review.

That the NEPA requirements (Part 6 of this chapter), applicable to the project step, have been met. Such compliance is a basic prerequisite for Step 2, Step 3, and combination Step 2 and 3 projects. An adequate assessment of expected environmental impacts, consistent with the requirements of the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.), is required as an integral part of facilities planning initiated after April 30, 1974, in accordance with § 35.917-1.

§ 35.925-9 Civil rights.

That if the award of grant assistance is for a project involving Step 2 or 3, the applicable requirements of Title VI, of the Civil Rights Act of 1964 (See Part 7 of this chapter) have been met.

§ 35.925-10 Operation and maintenance program.

If the award of grant assistance is for a project involving Step 3, that satisfactory provision has been made by the applicant for assuring proper and efficient operation and maintenance of the treatment works, in accordance with § 35.935-12, and that the State will have an effective operation and maintenance monitoring program to assure that treatment works assisted under this subpart, comply with applicable permit and grant conditions.

§ 35.925-11 User charges.

That, in the case of grant assistance awarded after March 1, 1973, for a project involving Step 2 or Step 3, an approvable plan and schedule of implementation have been developed for a system of user charges to assure that each recipient of waste treatment services within the applicants service area will pay its proportionate share of the costs of operation and maintenance (including replacement as defined in § 35.905-17) of all waste treatment service provided by the applicant and the applicant must agree that such system(s) will be maintained. See Appendix B to this subpart.

§ 35.925-12 Industrial cost recovery.

(a) That, in the case of any grant assistance awarded after March 1, 1973, for a project involving Step 2 or Step 3, signed letters of intent have been received by the applicant from each significant industrial user to pay that portion of the grant amount allocable to the treatment of its wastes. Each such letter shall also include a statement of the industrial user's intended period of use of the treatment works. A significant industrial user is one that will contribute greater than 10 percent of the design flow or design pollutant loading of the treatment works. In addition, the applicant must agree to require all industrial users to pay that portion of the grant amount allocable to the treatment of wastes from such users.

(b) Projects awarded grant assistance prior to March 2, 1973 are subject to the requirements of § 35.935-5 in lieu of paragraph (a) of this section.

§ 35.925-13 Sewage Collection System.

That, if the project is for, or includes, sewage collection system work, such work (a) is for replacement or major rehabilitation of an existing sewer system pursuant to § 35.927-3(a) and is necessary to the total integrity and performance of the waste treatment works servicing such community, or (b) is for a new sewer system in a community in existence on October 18, 1972, with sufficient existing or planned capacity to adequately treat such collected sewage. Replacement or major rehabilitation of an existing sewer system may be approved only if cost effective and must result in a sewer system design capacity equivalent only to that of the existing system plus a reasonable amount for future growth. A community, for purposes of this section, would include any area with substantial human habitation on October 18, 1972. No award may be made for a new sewer system in a community in existence on October 18, 1972 unless it is further determined by the Regional Administrator that the bulk (generally two-thirds) of the flow design capacity through the sewer system will be for waste waters originating from the community (habitation) in existence on October 18, 1972.

§ 35.925-14 Compliance with Environmental Laws.

That the treatment works will comply with all pertinent requirements of the Clean Air Act and other applicable Federal, State and local environmental laws and regulations.

§ 35.925-15 Treatment of industrial wastes.

That the allowable project costs do not include costs allocable to the treatment

for control or removal of pollutants in wastes introduced into the treatment works by industrial users unless the applicant is required to remove such pollutants introduced from non-industrial sources; and that the project is included in a waste treatment system, a principal purpose of which project and system is the treatment of domestic wastes of the entire community, area, region or district concerned. A "waste treatment system", for purposes of this section, means one or more treatment works which provide integrated but not necessarily interconnected waste disposal for the community, area, region or district. See the pretreatment standards set forth in Part 128 of this Chapter.

§ 35.925–16 Federal activities

That the allowable project costs do not include costs allocable to the treatment of wastes from major activities of the Federal Government, which another Federal Agency has agreed to pay. Such Federal agencies may extend, over a period of years, their contributions to support capital costs incurred by municipal treatment facilities which provide service to them

§ 35.925–17 Retained amounts for reconstruction and expansion.

That the allowable project costs have been reduced by an amount equal to the unexpended balance of the amounts retained by the applicant for future reconstruction and expansion pursuant to § 35.928–2, together with interest earned thereon.

§ 35.925–18 Limitation upon project costs incurred prior to award.

That project construction has not been initiated prior to the approved date of initiation of construction (as defined in § 35.905–4), except as otherwise provided in this section. Generally, payment is not authorized for costs incurred prior to the approved date of initiation of construction, which shall be established in the grant agreement, in accordance with paragraphs (a), (b), and (c) of this section.

(a) Steps 1 or 2:

(1) No prior approval or prior grant award is required for Step 1 or Step 2 work initiated prior to November 1, 1974; payment for all such allowable costs incurred after the approved date of initiation of construction is authorized in conjunction with the first award of grant assistance.

(2) In the case of Step 1 or Step 2 project work initiated after October 31, 1974, no payment is authorized for:

(i) Step 1 costs incurred prior to the date of approval of a plan to study (see §§ 35.917 and 35.930–3(a)(1)); and

(ii) Step 2 costs incurred prior to the date of approval of a facilities plan (see §§ 35.917 and 35.930–3(b)(1)); payment for all Step 1 or Step 2 costs incurred after such dates of approval are authorized in conjunction with the first award of grant assistance.

(3) Where Step 1 or Step 2 project work is initiated after June 30, 1975, no grant assistance for the Step 1 or Step 2 project work may be awarded unless such award precedes initiation of the project work: *Provided*, That in lieu of award of a Step 1 grant after June 30, 1975, the State agency may request the Regional Administrator to reserve funds for Step 1 grant assistance (based upon approval of the plan of study) and to defer award of grant assistance for Step 1 work, which award, however, must in any event be made within the allotment period for the reserved funds.

(b) Step 3: Except as otherwise provided in this subparagraph, no grant assistance for a Step 3 project may be awarded unless such award precedes initiation of the Step 3 construction. Advance acquisition of major equipment items requiring long lead times, or advance construction of minor portions of treatment works, in emergencies or instances where delay could result in significant cost increases, may be approved by the Regional Administrator, but only (1) if the applicant submits a written and adequately substantiated request for approval, and (2) if written approval by the Regional Administrator is obtained prior to initiation of the advance acquisition or advance construction.

(c) The approval of a plan of study, a facilities plan, or of advance acquisition of equipment or advance construction will not constitute a commitment for approval of grant assistance for a subsequent treatment works project, but will allow payment for the previously approved costs as allowable project costs upon subsequent award of grant assistance, if requested prior to grant award (see § 35.945(a)). In instances where such approval is obtained, the applicant proceeds at its own risk, since payment for such costs cannot be made unless and until grant assistance for the project is awarded.

§ 35.925–19 Section 208: Agencies and plans.

That, pursuant to section 208(d) of the Act, after a waste treatment management agency has been designated for an area, and a final plan for such area has been approved, the applicant is the designated agency and the treatment works project is in conformity with such plan.

§ 35.927 Sewer system evaluation and rehabilitation.

(a) All applicants for grant assistance awarded after July 1, 1973, must demonstrate to the satisfaction of the Regional Administrator that each sewer system discharging into the treatment works project for which grant application is made is not or will not be subject to excessive infiltration/inflow. The determination whether excessive infiltration/inflow exists, may take into account, in addition to flow and related data, other significant factors such as cost-effectiveness (including the cost of substantial treatment works construction delay, see Appendix A to this subpart), public health emergencies, the effects of plant bypassing or overloading, or relevant economic or environmental factors.

(b) The determination whether or not excessive infiltration/inflow exists will generally be accomplished through a sewer system evaluation consisting of (1) certification by the State agency, as appropriate; and, when necessary (2) an infiltration/inflow analysis; and, if appropriate, (3) a sewer system evaluation survey followed by rehabilitation of the sewer system to eliminate an excessive infiltration/inflow defined in the sewer system evaluation. Information submitted to the Regional Administrator for such determination should be the minimum necessary to enable a judgment to be made.

(c) Guidelines on sewer system evaluation published by the Administrator provide further advisory information.

§ 35.927–1 Infiltration/Inflow analysis.

(a) The infiltration/inflow analysis shall demonstrate the non-existence or possible existence of excessive infiltration/inflow in each sewer system tributary to the treatment works. The analysis should identify the presence, flow rate, and type of infiltration/inflow conditions, which exist in the sewer systems. Information to be obtained and evaluated in the analysis should include, to the extent appropriate, the following:

(1) Estimated flow data at the treatment facility, all significant overflows and bypasses, and, if necessary, flows at key points within the sewer system.

(2) Relationship of existing population and industrial contribution to flows in the sewer system.

(3) Geographical and geological conditions which may affect the present and future flow rates or correction costs for the infiltration/inflow.

(4) A discussion of age, length, type, materials of construction and known physical condition of the sewer system.

(b) For determination of the possible existence of excessive infiltration/inflow, the analysis shall include an estimate of the cost of eliminating the infiltration/inflow conditions. These costs shall be compared with estimated total costs for transportation and treatment of the infiltration/inflow. Cost-Effectiveness Analysis Guidelines (Appendix A to this subpart), which contain advisory information, should be consulted with respect to this determination.

(c) If the infiltration/inflow analysis demonstrates the existence or possible existence of excessive infiltration/inflow a detailed plan for a sewer system evaluation survey shall be included in the analysis. The plan shall outline the tasks to be performed in the survey and their estimated costs.

§ 35.927–2 Sewer system evaluation survey.

(a) The sewer system evaluation survey shall consist of a systematic examination of the sewer systems to determine the specific location, estimated flow rate, method of rehabilitation and cost of rehabilitation versus cost of transportation and treatment for each defined source of infiltration/inflow.

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(b) The results of the sewer system evaluation survey shall be summarized in a report. In addition, the report shall include:

(1) A justification for each sewer section cleaned and internally inspected.

(2) A proposed rehabilitation program for the sewer systems to eliminate all defined excessive infiltration/inflow.

§ 35.927–3 Rehabilitation.

(a) The scope of each treatment works project defined within the Facilities Plan as being required for implementation of the Plan, and for which Federal assistance will be requested, shall define (1) any necessary new treatment works construction, and (2) any rehabilitation work determined by the sewer system evaluation to be necessary for the elimination of excessive infiltration/inflow. However, rehabilitation which should be a part of the applicant's normal operation and maintenance responsibilities shall not be included within the scope of a Step 3 treatment works project.

(b) Grant assistance for a Step 3 project segment consisting of rehabilitation work may be awarded concurrently with Step 2 work for the design of the new treatment works construction.

§ 35.927–4 Sewer use ordinance.

Each applicant for grant assistance for a Step 2, Step 3, or combination Steps 2 and 3 project shall demonstrate to the satisfaction of the Regional Administrator that a sewer use ordinance or other legally binding requirement will be enacted and enforced in each jurisdiction served by the treatment works project before the completion of construction. The ordinance shall prohibit any new connections from inflow sources into the sanitary sewer portions of the sewer system and shall ensure that new sewers and connections to the sewer system are properly designed and constructed.

§ 35.927–5 Project procedures.

(a) *State certification.* The State agency may (but need not) certify that excessive infiltration/inflow does or does not exist. The Regional Administrator will determine that excessive infiltration/inflow does not exist on the basis of State certification, if he finds that the State had adequately established the basis for its certification through submission of only the minimum information necessary to enable a judgment to be made. Such information could include a preliminary review by the applicant or State, for example, of such parameters as per capita design flow, ratio of flow to design flow, flow records or flow estimates, bypasses or overflows, or summary analysis of hydrological, geographical, and geological conditions, but this review would not usually be equivalent to a complete infiltration/inflow analysis. State certification must be on a project-by-project basis. If the Regional Administrator determines on the basis of State certification that the treatment works is or may be subject to excessive infiltration/inflow, no Step 2 or Step 3 grant assistance may be awarded except as provided in paragraph (c) of this section.

(b) *Pre-award sewer system evaluation.* Generally, except as otherwise provided in paragraph (c) of this section, an adequate sewer system evaluation, consisting of a sewer system analysis and, if required, an evaluation survey, is an essential element of Step 1 facilities planning and is a prerequisite to the award of Step 2 or 3 grant assistance. If the Regional Administrator determines through State Certification or an infiltration/inflow analysis that excessive infiltration/inflow does not exist, Step 2 or 3 grant assistance may be awarded. If on the basis of State certification or the infiltration/inflow analysis, the Regional Administrator determines that possible excessive infiltration/inflow exists, an adequate sewer system evaluation survey and, if required, a rehabilitation program must be furnished, except as set forth in paragraph (c) of this section before grant assistance for Step 2 or 3 can be awarded. A Step 1 grant may be awarded for the completion of this segment of Step 1 work, and, upon completion of Step 1, grant assistance for a Step 2 or 3 project (for which priority has been determined pursuant to § 35.915) may be awarded.

(c) *Exception.* In the event it is determined by the Regional Administrator that the treatment works would be regarded (in the absence of an acceptable program of correction) as being subject to excessive or possible excessive infiltration/inflow, grant assistance may be awarded provided that the applicant establishes to the satisfaction of the Regional Administrator that the treatment works project for which grant application is made will not be significantly changed by any subsequent rehabilitation program or will be a component part of any rehabilitated system: *Provided*, That the applicant agrees to complete the sewer system evaluation and any resulting rehabilitation on an implementation schedule the State accepts (subject to approval by the Regional Administrator), which schedule shall be inserted as a special condition in the grant agreement. Compliance with this schedule shall be accomplished pursuant to § 35.935–16 and § 30.304 of this chapter.

(d) Municipalities may submit the infiltration/inflow analysis and when appropriate the sewer system evaluation survey, through the State agency, to the Regional Administrator for his review at any time prior to application for a treatment works grant. Based on such a review, the Regional Administrator shall provide the municipality with a written response indicating either his concurrence or nonconcurrence. The Regional Administrator must concur with the sewer system evaluation survey plan before the work is performed for the survey to be an allowable cost.

§ 35.928 Industrial cost recovery.

The system for industrial cost recovery shall be approved by the Regional Administrator and shall be implemented and maintained by the grantee in accordance with § 35.935–13 and the following requirements.

§ 35.928–1 Recovered amounts.

(a) Each year during the industrial cost recovery period, each industrial user of the treatment works shall pay its share of the total amount of the grant and any grant amendment awarded pursuant to this subpart, divided by the recovery period.

(b) The industrial cost recovery period shall be equal to 30 years or the useful life of the treatment works, whichever is less.

(c) Payments shall be made by industrial users no less often than annually. The first payment by an industrial user shall be made not later than 1 year after such user begins use of the treatment works.

(d) An industrial user's share shall be based on all factors which significantly influence the cost of the treatment works. Factors such as strength, volume, and delivery flow rate characteristics shall be considered and included to insure a proportional distribution of the grant assistance allocable to industrial use to all industrial users of the treatment works. As a minimum, an industry's share shall be proportional to its flow, in relation to treatment works flow capacity.

(e) If there is a substantial change in the strength, volume, or delivery flow rate characteristics introduced into the treatment works by an industrial user, such user's share shall be adjusted accordingly.

(f) If there is an expansion or upgrading of the treatment works, each existing industrial user's share shall be adjusted accordingly.

(g) An industrial user's share shall include only that portion of the grant assistance allocable to its use or to capacity firmly committed for its use.

(h) All unallocated treatment works capacity must conform with the requirements of section 204(a)(5) of the Act. Cost-effectiveness guidelines are published as Appendix A to this subpart to furnish additional advisory information concerning the implementation of section 212(2)(C) of the Act.

(i) An industrial user's share shall not include an interest component.

§ 35.928–2 Retained amounts.

(a) The grantee shall retain 50 percent of the amounts recovered from industrial users. The remainder, together with any interest earned thereon, shall be returned to the U.S. Treasury on an annual basis.

(b) A minimum of 80 percent of the retained amounts, together with interest earned thereon, shall be used solely for the eligible costs (in accordance with § 35.940) of the expansion or reconstruction of treatment works associated with the project and necessary to meet the requirements of the Act. The grantee shall obtain the written approval of the Regional Administrator prior to commit-

ment of the retained amounts for any expansion and reconstruction. The remainder of the retained amounts may be used as the grantee sees fit.

(c) Pending use, the grantee shall invest the retained amounts for reconstruction and expansion in: (1) Obligations of the U.S. Government; or (2) obligations guaranteed as to principal and interest by the U.S. Government or any agency thereof; or (3) shall deposit such amounts in accounts fully collateralized by obligations of the U.S. Government or by obligations fully guaranteed as to principal and interest by the U.S. Government or any agency thereof.

§ 35.930 Award of grant assistance.

Approval by the Regional Administrator of an application or amendments thereto through execution of a grant agreement (including a grant amendment), in accordance with § 30.305 of this subchapter, shall constitute a contractual obligation of the United States for the payment of the Federal share of the allowable project costs, as determined by the Regional Administrator. Information concerning the approved project furnished in accordance with § 35.920-3 shall be deemed to be incorporated in the grant agreement.

§ 35.930-1 Types of projects.

(a) The Regional Administrator may award grant assistance for the following types of projects pursuant to § 35.925:

(1) *Step 1.* A facilities plan and/or related elements required to apply for Step 2 grant assistance (see § 35.920-3(b)): *Provided*, That he determines that the applicant has submitted the items required pursuant to § 35.920-3(a);

(2) *Step 2.* Preparation of construction drawings and specifications: *Provided*, That he determines that the applicant has submitted the items required pursuant to § 35.920-3(b);

(3) *Step 3.* Building and erection of a treatment works: *Provided*, That he determines that the applicant has submitted the items required pursuant to § 35.920-3(c); or

(4) *Steps 2 and 3.* A combination of design (Step 2) and construction (Step 3) for a treatment works in the case of grants awarded after March 1, 1973:

(i) Where the Regional Administrator determines that compelling water quality enforcement considerations or public health emergencies warrant award of such grant assistance to assure expeditious construction of such treatment works, or

(ii) Where the Regional Administrator determines that award of such grant assistance will minimize administrative requirements in the case of projects not requiring a substantial amount of Federal assistance: *Provided*, That the award authority provided by this subparagraph (4) is subject to the following conditions: that (A) the Regional Administrator determines that the applicant has submitted the items pursuant to § 35.920-3 (b); (B) the United States will be contractually obligated to pay only the Federal share of the approved Step 2 work and will not be contractually obligated to pay the Federal share of Step 3 project costs unless and until the plans and specifications developed during Step 2 are approved; and (C) funds fiscally obligated for Step 3 will be deobligated unless two sets of construction drawings and specifications suitable for bidding purposes are submitted to the Regional Administrator and approved prior to initiation of construction for the building and erection of the treatment works.

(5) *Step 2/3:* Design/construction of treatment works (Steps 2 and 3): *Provided*, That he determines that the applicant has submitted the items required pursuant to § 35.920-3(d): *And further provided*, That such grant assistance must be awarded pursuant to EPA guidelines for the award of design/construct projects, and that the requirements of such guidelines are met.

(b) The Regional Administrator may award Federal assistance by a grant or grant amendment from any allotment or reallotment available to a State pursuant to § 35.910 for payment of 100 percent of any cost of construction of a treatment works (for not more than one facility in any State) required to train and upgrade waste treatment works operation and maintenance personnel, from one or more States, pursuant to section 109(b) of the Act: *Provided*, That the Federal cost of any such training facility shall not exceed $250,000.

§ 35.930-2 Grant amount.

The amount of grant assistance shall be set forth in the grant agreement. The grant amount may not exceed the amount of funds available from the State allotments and reallotments pursuant to § 35.910. Grant payments will be limited to the Federal share of allowable project costs incurred within the grant amount or any increases in such amount effected through grant amendments in accordance with § 35.955, pursuant to the negotiated payment schedule included in the grant agreement.

§ 35.930-3 Grant term.

The grant agreement shall establish the period within which the project must be completed, in accordance with § 30.305-1 of this chapter, subject to excusable delay.

§ 35.930-4 Project scope.

The grant agreement must define the scope of the project for which Federal assistance is awarded under the grant. The project scope must include a step or an identified segment thereof. With respect to any grant assistance for a treatment works project which is initially funded from funds allocated for any fiscal year beginning after June 30, 1974, provision must be made for the application of best practicable waste treatment technology over the life of the treatment works. However, a grant may be made for a segment of Step 3 treatment works construction, when that segment in and of itself does not provide for achievement of applicable effluent discharge limitations (secondary treatment, best practicable waste treatment technology, or water quality effluent limitations), provided that: (a) The segment is to be a component of an operable treatment works which will provide for achievement of the applicable effluent discharge limitations, and (b) a commitment for completion of the complete treatment works is submitted to the Regional Administrator and is incorporated as a special condition in the grant agreement.

§ 35.930-5 Federal share.

The grant shall be 75 percent of the estimated total cost of construction of the project approved by the Regional Administrator in the grant agreement, except as otherwise provided in §§ 35.925-15, 35.925-16, 35-925-17, and 35.930-1(b).

§ 35.930-6 Limitation on Federal share.

The grantee must exert its best efforts to perform the project work as specified in the grant agreement within the approved cost ceiling. If at any time the grantee has reason to believe that the costs which it expects to incur in the performance of the project will exceed or be substantially less than the then approved estimated total project cost, the grantee must notify the Regional Administrator and the State agency promptly in writing to that effect, giving the revised estimate of such total cost for the performance of the project then or as soon thereafter as practicable, pursuant to 40 CFR 30.900. Delay in submission of such notice and excess cost information may prejudice approval of an increase in the grant amount. The United States shall not be obligated to pay for costs incurred in excess of the approved grant amount or any amendment thereof until the State has approved an increase in the grant amount from available allotments and the Regional Administrator has approved such increase through issuance of a written grant amendment pursuant to §§ 35.915 and 35.965. Grant payments will be made pursuant to § 35.945.

§ 35.935 Grant conditions.

In addition to the EPA General Grant Conditions (Subpart C of Part 30 and Appendix A to this subchapter), each treatment works grant shall be subject to the following conditions:

§ 35.935-1 Non-Federal construction costs.

The grantee agrees to pay, pursuant to section 204(a)(4) of the Act, the non-Federal costs of treatment works construction associated with the project and commits itself to complete the construction of the operable treatment works (see § 35.905-15) and complete waste treatment system (see § 35.905-3) of which the project is a part.

§ 35.935-2 Procurement; nonrestrictive specifications.

(a) *General.* The grantee must comply with § 35.936 of this subpart in the

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construction of any Step 3 or Step 2+3 project. Performance of Step 2 and Step 3 project work may not be accomplished by force account except for (1) Step 1 or Step 2 infiltration/inflow work for which prior written approval has been obtained in accordance with §§ 35.927 to 35.927-8 and (2) segments of Step 3 work, the cost of which is estimated to be under $25,000. The Regional Administrator will cause appropriate review of grantee procurement methods to be made from time to time.

(b) *Nonrestrictive specifications.* No specification for bids or statement of work in connection with such works shall be written in such a manner as to contain proprietary, exclusionary, or discriminatory requirements other than those based upon performance, unless such requirements are necessary to test or demonstrate a specific thing or to provide for necessary interchangeability of parts and equipment, or at least two brand names or trade names of comparable quality or utility are listed and are followed by the words "or equal." The single base bid method of solicitation for equipment and parts for determination of a low, responsive bidder may not be utilized. With regard to materials, if a single material is specified, the grantee must be prepared to substantiate the basis for the selection of the material.

§ 35.935–3 Bonding and insurance.

On contracts for the building and erection of treatment works (Step 3) exceeding $100,000, each bidder must furnish a bid guarantee equivalent to 5 percent of the bid price. In addition the contractor awarded either a design/construct contract or a construction contract for Step 3 must furnish performance and payment bonds, each of which shall be in an amount not less than 100 percent of the contract price. Construction contracts less than $100,000 shall be subject to State and local requirements relating to bid guarantees, performance and payment bonds. Contractors should obtain such construction insurance (e.g., fire and extended coverage, workmen's compensation, public liability and property damage, and "all risk" builders risk) as is customary and appropriate.

§ 35.935–4 State and local laws.

The construction of the project, including the letting of contracts in connection therewith, shall conform to the applicable requirements of State, territorial, and local laws and ordinances to the extent that such requirements do not conflict with Federal laws and this subchapter.

§ 35.935–5 Davis-Bacon and related statutes.

In the case of any project involving Step 3, the grantee must consult with the Regional Administrator prior to issuance of invitation for bids concerning compliance with Davis-Bacon and related statutes required pursuant to § 30.403 (a), (b), and (c) of this chapter.

§ 35.935–6 Equal employment opportunity.

Generally, contracts involving Step 3, of $10,000 and above, are subject to equal employment opportunity requirements under Executive Order 11246, including rules, regulations and orders issued thereunder (see Part 8 of this chapter). The grantee must consult with the Regional Administrator concerning equal employment opportunity requirements prior to issuance of invitation for bids where the cost of construction work is estimated to be more than $1,000,000, or where required by the grant agreement.

§ 35.935–7 Access.

Any contract for Step 1, Step 2 or Step 3 work must provide that representatives of the Environmental Protection Agency and the State will have access to the work whenever it is in preparation or progress and that the contractor will provide proper facilities for such access and inspection. Such contract must also provide that the Regional Administrator, the Comptroller General of the United States, or any authorized representative shall have access to any books, documents, papers, and records of the contractor which are pertinent to the project for the purpose of making audit, examination, excerpts, and transcriptions thereof.

§ 35.935–8 Supervision.

In the case of any project involving Step 3, the grantee will provide and maintain competent and adequate engineering supervision and inspection of the project to insure that the construction conforms with the approved plans and specifications.

§ 35.935–9 Project completion.

The grantee agrees to expeditiously initiate and complete the project or cause it to be constructed and completed in accordance with the grant agreement and application approved by the Regional Administrator. The Regional Administrator must terminate the grant if initiation of construction for a Step 3 project has not occurred within one year after award of grant assistance for such project: *Provided*, That the Regional Administrator may defer such termination for not more than six additional months if he determines that there is good cause for the delay in initiation of project construction.

§ 35.935–10 Copies of contract documents.

In addition to the notification of project changes pursuant to § 30.900–1 of this chapter, a copy of any prime contract or modification thereof and of revisions to plans and specifications must be promptly submitted to the Regional Administrator.

§ 35.935–11 Project changes.

In addition to the notification of project changes required pursuant to § 30.900–1 of this chapter, prior approval by the Regional Administrator and the State agency is required for project changes which may (a) substantially alter the design and scope of the project, (b) alter the type of treatment to be provided, (c) substantially alter the location, size, capacity, or quality of any major item of equipment; or (d) increase the amount of Federal funds needed to complete the project: *Provided*, That prior EPA approval is not required for changes to correct minor errors, minor changes, or emergency changes. No approval of a project change pursuant to § 35.900 of this chapter shall commit or obligate the United States to any increase in the amount of the grant of payments thereunder unless a grant increase is approved pursuant to § 35.955. The preceding sentence shall not preclude submission or consideration of a request for a grant amendment pursuant to § 30.901 of this chapter.

(a) The grantee must make adequate provisions satisfactory to the Regional Administrator for assuring economic, effective, and efficient operation and maintenance of such works in accordance with a plan of operation approved by the State water pollution control agency or, as appropriate, the interstate agency, after construction thereof.

(b) As a minimum, such plan shall include provision for: (1) An operation and maintenance manual for each facility, (2) an emergency operating and response program, (3) properly trained management, operation and maintenance personnel, (4) adequate budget for operation and maintenance, (5) operational reports, and (6) provisions for laboratory testing adequate to determine influent and effluent characteristics and removal efficiencies.

(c) The Regional Administrator shall not pay (1) more than 50 percent of the Federal share of any Step 3 project unless the grantee has furnished a draft of the operation and maintenance manual for review, or adequate evidence of timely development of such a draft, or (2) more than 90 percent of the Federal share unless the grantee has furnished a satisfactory final operation and maintenance manual.

§ 35.935–13 User charges and industrial cost recovery.

(a) The grantee must obtain the approval of the Regional Administrator of the system of industrial cost recovery (see § 35.928) and of the system of user charges. The Regional Administrator shall not pay more than 50 percent of the Federal share of any Step 3 project unless the grantee has submitted adequate evidence of timely development of its system(s) of user charges and industrial cost recovery nor more than 80 percent of such Federal share unless the Regional Administrator has approved such system(s).

(b) The Regional Administrator may approve a user charge system in accordance with the following criteria:

(1) The user charge system must result in the distribution of the cost of operation and maintenance of treatment works within the grantee's service area to each user (or user class) in proportion to such user's contribution to the total wastewater loading of the treatment works. Factors such as strength, volume, and delivery flow rate characteristics shall be considered and included as the basis for the user's contribution to ensure a proportional distribution of operation and maintenance costs to each user (or user class).

(2) For the first year of operation, operation and maintenance costs shall be based upon past experience for existing treatment works or some other rational method that can be demonstrated to be applicable.

(3) The grantee shall review user charges annually and revise them periodically to reflect actual treatment works operation and maintenance costs.

(4) The user charge system must generate sufficient revenue to offset the cost of all treatment works operation and maintenance provided by the grantee.

(5) The user charge system must be incorporated in one or more municipal legislative enactments or other appropriate authority. If the project is a regional treatment works accepting wastewaters from treatment works owned by others, then the subscribers receiving waste treatment services from the grantee shall have adopted user charge systems. Such user charge systems shall also be incorporated in the appropriate municipal legislative enactments or other appropriate authority.

(c) Upon approval of a grantee's system(s) of user charges and industrial cost recovery, implementation and maintenance of such approved system(s) and implementation schedules therefor, shall become a condition of the grant and the grantee shall be subject to the provisions with respect to non-compliance with grant conditions of § 30.404 of this chapter.

(d) The grantee must maintain such records as are necessary to document such compliance.

(e) Guidelines containing illustrative examples of acceptable user charge and industrial cost recovery systems may be consulted for advisory information. The user charge guidelines are contained in Appendix B to this subpart. Cost Recovery Guidelines are published separately and may be obtained from the EPA Regional Office.

§ 35.935–14 Final inspection.

The grantee must notify the Regional Administrator through the State Agency of the completion of Step 3 project construction. The Regional Administrator shall cause final inspection to be made within 60 days of the receipt of the notice. Upon completion of the final inspection and upon determination by the Regional Administrator that the treatment works have been satisfactorily constructed in accordance with the grant agreement, the grantee may make a request for final payment pursuant to § 35.945(e).

§ 35.935–15 Utilization of small and minority businesses.

It is the policy of the Environmental Protection Agency that grantees must utilize to the maximum practical extent small and minority businesses in procurement under grants involving Steps 1, 2, or 3. In the case of grants of $10,000,000 or more grantees must institute an affirmative program for the utilization of small and minority businesses prior to award of the grant.

§ 35.935–16 Sewer use ordinance and evaluation/rehabilitation program.

The grantee must obtain the approval of the Regional Administrator of its sewer use ordinance, pursuant to § 35.927–4 of this subpart. The Regional Administrator shall not pay more than 90 percent of the Federal share of any Step 3 project unless he has approved the grantee's sewer use ordinance, and the grantee is complying with the sewer system evaluation and rehabilitation schedule incorporated in the grant agreement pursuant to § 35.927–5.

§ 35.935–17 Training facility.

If assistance has been provided for the construction of a treatment works required to train and upgrade waste treatment works operation and maintenance personnel, pursuant to § 35.935–1(h) and 35.936–3(c), the grantee must provide assurance that the treatment works will be operated as such a training facility for a period of at least ten years, upon completion of construction.

§ 35.937 Contracts for personal and professional services. [Reserved]

§ 35.938 Construction contracts of grantees.

§ 35.938–1 Applicability.

This section applies to contracts awarded by grantees for any Step 3 project or Step 2+3 project, except personal and professional service contracts.

§ 35.938–2 Performance by contract.

It is the policy of the Environmental Protection Agency to encourage free and open competition with regard to project work performed by contract. The project work shall be performed under one or more contracts awarded by the grantee to private firms, except for force account work authorized by § 35.935–2. The following sections define EPA policy for the implementation of the procurement standards set forth in Office of Management and Budget Circular No. A–102, Attachment O (printed at 38 FR 21344, August 7, 1973). Grantee procurement systems should as a minimum provide for the following:

§ 35.938–3 Type of contract.

Each contract shall be either a fixed-price (lump sum) contract or fixed-rate (unit price) contract, or a combination of the two, unless the Regional Administrator gives advance written approval for the grantee to use some other method of contracting. The cost-plus-a-percentage of cost method of contracting shall not be used.

§ 35.938–4 Formal advertising.

Each contract shall be awarded by means of formal advertising, unless negotiation is permitted in accordance with § 35.938–5. Formal advertising shall be in accordance with the following:

(a) *Adequate public notice.* The grantee will cause adequate notice to be given of the solicitation by publication in newspapers or journals of general circulation, beyond the grantee's locality (Statewide, generally) inviting bids on the project work, and stating the method by which bidding documents may be obtained and/or examined. Where the estimated prospective cost of Step 3 construction is ten million dollars or more, such notice must generally be published in trade journals of Nationwide distribution. The grantee should in addition solicit bids directly from bidders, if it maintains a bidders list.

(b) *Adequate time for preparing bids.* Adequate time, generally not less than 30 days must be allowed between the date when public notice pursuant to paragraph (a) of this section is first published and the date by which bids must be submitted. Bidding documents (including specifications and drawings) shall be available to prospective bidders from the date when such notice is first published.

(c) *Adequate bidding documents.* A reasonable number of bidding documents (invitations for bid) shall be prepared by grantee and shall be furnished upon request on a first-come, first-served basis. A complete set of bidding documents shall be maintained by grantee and shall be available for inspection and copying by any party. Such bidding documents shall include:

(1) A complete statement of the work to be performed, including necessary drawings and specifications, and the required completion schedule. (Drawings and specifications may be made available for inspection instead of being furnished.);

(2) The terms and conditions of the contract to be awarded;

(3) A clear explanation of the method of bidding and the method of evaluation of bid prices, and the basis and method for award of the contract;

(4) Responsibility requirements or criteria which will be employed in evaluating bidders; *Provided*, That an experience requirement or performance bond may not be utilized unless adequately justified under the particular circumstances by the grantee;

(5) The following statement:

Any contract or contracts awarded under this invitation for bids are expected to be funded in part by a grant from the United States Environmental Protection Agency. Neither the United States nor any of its de-

partments, agencies or employees is or will be a party to this Invitation for Bids or any resulting contract.;

and

(8) A copy of § 35.938 and § 35.939.

(d) *Sealed bids.* The grantee shall provide for bidding by sealed bid and for the safeguarding of bids received until public opening.

(e) *Amendments to bidding documents.* If grantee desires to amend any part of the bidding documents (including drawings and specifications) during the period when bids are being prepared, the amendments shall be communicated in writing to all firms who have obtained bidding documents in time to be considered prior to the bid opening time; when appropriate, the period for submission of bids shall be extended.

(f) *Bid modifications.* A firm which has submitted a bid shall be allowed to modify or withdraw its bid prior to the time of bid opening.

(g) *Public opening of bids.* Grantee shall provide for a public opening of bids at the place, date and time announced in the bidding documents.

(h) *Award to the low responsive, responsible bidder.* (1) After bids are opened, they shall be evaluated by grantee in accordance with the methods and criteria set forth in the bidding documents.

(2) Unless all bids are rejected, award shall be made to the low, responsive, responsible bidder.

(3) If award is intended to be made to a firm which did not submit the lowest bid, a written statement shall be prepared prior to any award and retained by the grantee explaining why each lower bidder was deemed not responsive or nonresponsive.

(4) State or local laws, ordinances, regulations or procedures which are designed or operate to give local or in-State bidders preference over other bidders shall not be employed in evaluating bids.

§ 35.938–3 Negotiation.

Negotiation of contracts (i.e., award of contracts by any method other than formal advertising) is authorized if it is impracticable and infeasible to use formal advertising. Negotiated contracts must be competitively awarded to the maximum practicable extent. Generally, procurements may be negotiated by the grantee if:

(a) Public exigency will not permit the delay incident to advertising (e.g., an emergency procurement);

(b) The material or service to be procured is available from only one person or firm (and, if the procurement is expected to aggregate more than $5,000, the Regional Administrator has given prior approval);

(c) The aggregate amount involved does not exceed $2,500, (except as provided in paragraph (b) of this section);

(d) The procurement is for personal or professional services, or for any service to be rendered by a university or other educational institution;

(e) No responsive, responsible bids at acceptable price levels have been received after formal advertising, and the Regional Administrator has given advance written approval;

(f) The procurement is for material or services where the prices are established by law, for technical items or equipment requiring standardization and interchangeability of parts with existing equipment, for experimental, developmental or research work, for highly perishable materials, resale, or for technical or specialized supplies requiring substantial initial investment for manufacture. Any negotiated procurement under this paragraph (f) of this section, other than for perishable materials must be approved in advance by the Regional Administrator; or

(g) Negotiation of contracts is otherwise authorized by Federal law, rules, or regulations or approved prior to the procurement by the Regional Administrator.

§ 35.939 Compliance with procurement requirements.

(a) *Grantee responsibility.* The grantee is primarily responsible for selecting the low, responsive, and responsible bidder in accordance with applicable requirements of State, territorial, or local laws or ordinances, as well as the specific requirements of Federal law or this subchapter directly affecting the procurement (for example, the nonrestrictive specification requirement of § 35.935–2(b) or the equal employment opportunity requirement of § 35.935–6) and for the initial resolution of complaints based upon alleged violations. If complaint is made to the Regional Administrator concerning an alleged violation of Federal law or this subchapter in the procurement of construction services or materials for a project involving Step 3, the complaint will be referred to the grantee for resolution. The grantee must promptly determine each such complaint upon its merits permitting the complaining party as well as any other interested party who may be adversely affected, to state in writing or at a conference the basis for their views concerning the proposed procurement. The grantee must promptly furnish to the complaining party and to other affected parties, by certified mail, a written summary of its determination, substantiated by an engineering and legal opinion, providing a justification for its determination. See paragraph (c) of the section for applicable time limitations.

(b) *Regional Administrator responsibility.* A party adversely affected by an adverse determination of a grantee made pursuant to paragraph (a) of this section, concerning an alleged violation of a specific requirement of Federal law or this subchapter directly affecting the procurement of construction services or material for a project involving Step 3 may request the Regional Administrator to review an adverse determination, subject to the time limitation set forth in paragraph (c) of this section. A copy of the written adverse determination and supporting justification shall be transmitted with the request for review, together with a statement of the specific reasons why the proposed grantee procurement action would violate Federal requirements. The Regional Administrator will afford both the grantee and the complaining party, as well as any other interested party who may be adversely affected, an opportunity to present the basis for their views in writing or at a conference, and he shall promptly state in writing the basis for his determination of the protest. If the grantee proposes to award the contract or to approve award of a specified sub-item under the contract to a bidder other than the low bidder, the grantee will bear the burden of proving that its determination concerning responsiveness of the low bid is in accordance with Federal law and this subchapter; or, if the basis for the grantee's determination is a finding that the low bidder is not responsible, the grantee must establish and substantiate the basis for its determination and must establish that such determination has been made in good faith. The written determination by the Regional Administrator shall be promptly furnished to the grantee and to the complainant.

(c) *Time limitations.* Complaints should be made pursuant to paragraph (a) of this section as early as possible during the procurement process, preferably prior to issuance of an invitation for bids to avoid disruption of the procurement process: *Provided*, That a complaint authorized by paragraph (a) of this section must be mailed by certified mail (return receipt requested) or delivered no later than five working days after the bid opening. A request for review by the Regional Administrator pursuant to paragraph (b) of this section must be received by the Regional Administrator within one week after the complaining party received the grantee's adverse determination.

(d) *Deferral of Procurement Action.* Where the grantee has received a written compliant pursuant to paragraph (a) of this section, it must defer issuance of its solicitation or award or notice to proceed under the contract (as appropriate) for ten days after mailing or delivery of any written adverse determination. Where the Regional Administrator has received a written protest pursuant to paragraph (b) of this section, he must notify the grantee promptly and the grantee must defer issuance of its solicitation or award of the construction contract, as appropriate, until ten days after it receives the determination by the Regional Administrator. If a determination is made by either the grantee or the Regional Administrator which is favorable to the complainant, the terms of the solicitation must be revised or the contract must be awarded (as appropriate) in accordance with such determination.

(e) *Enforcement.* Noncompliance with the provisions of this subchapter affecting procurement will result in (1) total

or partial termination of the grant pursuant to § 35.950, (2) ineligibility for grant assistance which could otherwise be awarded under this subchapter or (3) disallowance of project costs (see § 35.940-3(j)) incurred in violation of the provisions of this subchapter or applicable Federal laws, as determined by the Regional Administrator. The grantee may appeal adverse determinations by the Regional Administrator in accordance with the Disputes Article (Article 7 of Appendix A to Subchapter B of this title).

§ 35.940 Determination of allowable costs.

The grantee will be paid, upon request, in accordance with § 35.945, for the Federal share of all necessary costs within the scope of the approved project and determined to be allowable in accordance with § 30.701 of this chapter, this subpart, and the grant agreement.

§ 35.940-1 Allowable project costs.

Allocable project costs of the grantee which are reasonable and necessary are allowable. Necessary costs may include, but are not limited to:

(a) Costs of salaries, benefits, and expendable material incurred by the grantee for the project, except as provided in § 940-2(g).

(b) Costs under construction contracts.

(c) Professional and consultant services.

(d) Facility planning directly related to the treatment works.

(e) Sewer system evaluation (§ 35.927).

(f) Project feasibility and engineering reports.

(g) Costs required pursuant to the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. 4621 et seq., 4651 et seq.), and regulations issued thereunder (Part 4 of this chapter).

(h) Costs of complying with the National Environmental Policy Act, including costs of public notices and hearings.

(i) Preparation of construction drawings, specifications, estimates, and construction contract documents.

(j) Landscaping.

(k) Supervision of construction work.

(l) Removal and relocation or replacement of utilities, for which the grantee is legally obligated to pay.

(m) Materials acquired, consumed, or expended specifically for the project.

(n) A reasonable inventory of laboratory chemicals and supplies necessary to initiate plant operations.

(o) Development and preparation of an operation and maintenance manual.

(p) Project identification signs (§ 30.604-4 of this chapter).

§ 35.940-2 Unallowable costs.

Costs which are not necessary for the construction of a treatment works project are unallowable. Such costs include, but are not limited to:

(a) Basin or areawide planning not directly related to the project;

(b) Bonus payments not legally required for completion of construction in advance of a contractual completion date;

(c) Personal injury compensation or damages arising out of the project, whether determined by adjudication, arbitration, negotiation, or otherwise;

(d) Fines and penalties resulting from violations of, or failure to comply with, Federal, State, or local laws;

(e) Costs outside the scope of the approved project;

(f) Interest on bonds or any other form of indebtedness required to finance the project costs;

(g) Ordinary operating expenses of local government, such as salaries and expenses of a mayor, city council members, or city attorney, except as provided in § 35.940-4.

(h) Site acquisition (for example, sewer rights-of-way, sewage treatment plant sites, sanitary landfills and sludge disposal areas) except as otherwise provided in § 35.940-3(a).

(i) Costs for which payment has been or will be received under another Federal assistance program.

(j) Costs of equipment or material procured in violation of § 35.938-4(h).

§ 35.940-3 Costs allowable, if approved.

Certain direct costs are sometimes necessary for the construction of a treatment works and are allowable if reasonable and approved by the Regional Administrator in the grant agreement or a grant amendment. Such costs include, but are not limited to:

(a) Land acquired after October 17, 1972, that will be an integral part of the treatment process or that will be used for ultimate disposal of residues resulting from such treatment (for example, land for spray irrigation of sewage effluent).

(b) Acquisition of an operable portion of a treatment works.

(c) Rate determination studies required pursuant to § 35.935-11.

§ 35.940-4 Indirect costs.

Indirect costs of the grantee shall be allowable in accordance with an indirect cost agreement negotiated and incorporated in the grant agreement. An indirect cost agreement must identify those cost elements allowable pursuant to § 35.940-1. Where the benefits derived from a grantee's indirect services cannot be readily determined, a lump sum for overhead may be negotiated based upon a determination that such amount will be approximately the same as the actual indirect costs that may be incurred.

§ 35.940-5 Disputes concerning allowable costs.

The grantee should seek to resolve any questions relating to cost allowability or allocation at its earliest opportunity (if possible, prior to execution of the grant agreement). Final determinations concerning the allowability of costs shall be conclusive unless appealed within 30 days in accordance with the "Disputes" article (Article 7) of the EPA General Grant Conditions (Appendix A, Subchapter B of this title).

§ 35.945 Grant payments.

The grantee shall be paid the Federal share of allowable costs incurred within the scope of an approved project, subject to the limitations of §§ 35.935-18, 35.-935-5, and 35.935-6; *Provided*, That such payments must be in accordance with the payment schedule and the grant amount set forth in the grant agreement and any amendments thereto. The payment schedule will provide that payment for Step 1 and Step 2 project work will be made only on the basis of completion of the step or, if specified in the payment schedule in the grant agreement, upon completion of specific tasks within the step. All allowable costs incurred prior to initiation of construction of the project must be claimed in the application for grant assistance for that project prior to the award of such assistance or no subsequent payment will be made for such costs.

(a) *Initial request for payment.* Upon award of grant assistance, the grantee may request payment for the unpaid Federal share of actual or estimated allowable project costs incurred prior to grant award subject to the limitations of § 35.935-18, and payment for such costs shall be made in accordance with the negotiated payment schedule included in the grant agreement.

(b) *Interim requests for payment.* The grantee may submit requests for payments for allowable costs incurred in accordance with the negotiated payment schedule included in the grant agreement. Upon receipt of a request for payment, subject to the limitations set forth in § 30.605-1 of this subchapter and §§ 35.935-12, 35.935-13, and 35.935-18, the Regional Administrator shall cause to be disbursed from available appropriated funds such amounts as are necessary so that the total amount of Federal payments to the grantee for the project is equal to the Federal share of the actual or estimated allowable project costs incurred to date, as certified by the grantee in its most recent request for payment. Generally, payments will be made within 30 days after receipt of a request for payment.

(c) *Adjustment.* At any time or times prior to final payment under the grant, the Regional Administrator may cause any request(s) for payment to be reviewed or audited. Each payment theretofore made shall be subject to reduction for amounts included in the related request for payment which are found, on the basis of such review or audit, not to constitute allowable costs. Any payment may be reduced for overpayments or increased for underpayments on preceding requests for payment.

(d) *Refunds, rebates, credits, etc.* The Federal share of any refunds, rebates, credits, or other amounts (including any interest thereon) accruing to or received by the grantee with respect to the project, to the extent that they are properly allocable to costs for which the grantee

has been paid under a grant, must be credited to the current State allotment or paid to the United States. Reasonable expenses incurred by the grantee for the purpose of securing such refunds, rebates, credits, or other amounts shall be allowable under the grant when approved by the Regional Administrator.

(e) *Final payment.* Upon completion of final inspection pursuant to § 35.935-14 and approval of the request for payment designated by the grantee as the "final payment request" and upon compliance by the grantee with all applicable requirements of this subchapter and the grant agreement, the Regional Administrator shall cause to be disbursed to the grantee any balance of allowable project cost which has not been paid to the grantee. The final payment request must be submitted by the grantee promptly after final inspection. Prior to final payment under the grant, the grantee must execute and deliver an assignment to the United States, in form and substance satisfactory to the Regional Counsel, of the Federal share of refunds, rebates, credits or other amounts (including any interest thereon) property allocable to costs for which the grantee has been paid by the Government under the grant, and a release discharging the United States, its officers, agents, and employees from all liabilities, obligations, and claims arising out of the project work or under the grant, subject only to such exceptions which may be specified in the release.

§ 35.950 Suspension or termination of grants.

Grants may be suspended, in accordance with § 30.902 of this subchapter and Article 4 of the General Grant Conditions (Appendix A to this subchapter), or terminated, in accordance with § 30.903 of this subchapter and Article 5 of the General Grant Conditions (Appendix A of this subchapter). The State agency shall be concurrently notified in writing of any such suspension or termination action.

§ 35.955 Grant amendments to increase grant amounts.

Grant agreements may be amended in accordance with § 30.901 of this chapter with respect to project changes which have been approved in accordance with § 30.900 and § 35.935-11 of this subchapter: *Provided*, That no grant agreement may be amended to increase the amount of a grant unless the State agency has approved the grant increase from available State allotments and reallotments in accordance with § 35.915.

§ 35.960 Disputes.

Final determinations by the Regional Administrator concerning ineligibility of projects for which priority has been determined in accordance with § 35.915 and final determinations by the Regional Administrator concerning disputes arising under a grant pursuant to this subpart shall be final and conclusive unless appealed by the applicant or grantee within 30 days from the date of receipt of such final determination in accordance with the "Disputes" article of General Grant Conditions (Article 7 of Appendix A to this subchapter).

APPENDIX A

COST EFFECTIVENESS ANALYSIS GUIDELINES

a. *Purpose.*—These guidelines provide advisory information concerning basic methodology for determining the most cost-effective waste treatment management system or the most cost-effective component part of any waste treatment management system.

b. *Authority.*—The guidelines contained herein are provided pursuant to section 212 (2)(C) of the Federal Water Pollution Control Act Amendments of 1972 (the Act).

c. *Applicability.*—These guidelines apply to the development of plans for and the selection of component parts of a waste treatment management system for which a Federal grant is awarded under 40 CFR, Part 35.

d. *Definitions.*—Definitions of terms used in these guidelines are as follows:

(1) *Waste treatment management system.*—A system used to restore the integrity of the Nation's waters. Waste treatment management system is used synonymously with complete waste treatment system as defined in 40 CFR, Part 35.905-8.

(2) *Cost-effectiveness analysis.*—An analysis performed to determine which waste treatment management system or component part thereof will result in the minimum total resources costs over time to meet the Federal, State or local requirements.

(3) *Planning period.*—The period over which a waste treatment management system is evaluated for cost-effectiveness. The planning period commences with the initial operation of the system.

(4) *Service life.*—The period of time during which a component of a waste treatment management system will be capable of performing a function.

(5) *Useful life.*—The period of time during which a component of a waste treatment management system will be required to perform a function which is necessary to the system's operation.

e. *Identification, selection and screening of alternatives.*—(1) *Identification of alternatives.*—All feasible alternative waste management systems shall be initially identified. These alternatives should include systems discharging to receiving waters, systems using land or subsurface disposal techniques, and systems employing the reuse of wastewater. In identifying alternatives, the possibility of staged development of the system shall be considered.

(2) *Screening of alternatives.*—The identified alternatives shall be systematically screened to define those capable of meeting the applicable Federal, State, and local criteria.

(3) *Selection of alternatives.*—The screened alternatives shall be initially analyzed to determine which systems have cost-effective potential and which should be fully evaluated according to the cost-effectiveness analysis procedures established in these guidelines.

(4) *Extent of effort.*—The extent of effort and the level of sophistication used in the cost-effectiveness analysis should reflect the size and importance of the project.

f. *Cost-effective analysis procedures.*—(1) *Method of Analysis.*—The resources costs shall be evaluated through the use of opportunity costs. For those resources that can be expressed in monetary terms, the interest (discount) rate established in section (f)(5) will be used. Monetary costs shall be calculated in terms of present worth values or equivalent annual values over the planning period as defined in section (f)(3). Non-monetary factors (e.g., social and environmental) shall be accounted for descriptively in the analysis in order to determine their significance and impact.

The most cost-effective alternative shall be the waste treatment management system determined from the analysis to have the lowest present worth and/or equivalent annual value without overriding adverse non-monetary costs and to realize at least identical minimum benefits in terms of applicable Federal, State, and local standards for effluent quality, water quality, water reuse and or land and subsurface disposal.

(2) *Planning period.*—The planning period for the cost-effectiveness analysis shall be 20 years.

(3) *Elements of costs.*—The costs to be considered shall include the total values of the resources attributable to the waste treatment management system or to one of its component parts. To determine these values, all monies necessary for capital construction costs and operation and maintenance costs shall be identified.

Capital construction costs used in a cost-effectiveness analysis shall include all contractors' costs of construction including overhead and profit; costs of land, relocation, and right-of-way and easement acquisition; design engineering, field exploration, and engineering services during construction; administrative and legal services including costs of bond sales, startup costs such as operator training; and interest during construction. Contingency allowances consistent with the level of complexity and detail of the cost estimates shall be included.

Annual costs for operation and maintenance (including routine replacement of equipment and equipment parts) shall be included in the cost-effectiveness analysis. These costs shall be adequate to ensure effective and dependable operation during the planning period for the system. Annual costs shall be divided between fixed annual costs and costs which would be dependent on the annual quantity of wastewater collected and treated.

(4) *Prices.*—The various components of cost shall be calculated on the basis of market prices prevailing at the time of the cost-effectiveness analysis. Inflation of wages and prices shall not be considered in the analysis. The implied assumption is that all prices involved will tend to change over time by approximately the same percentage. Thus, the results of the cost effectiveness analysis will not be affected by changes in the general level of prices.

Exceptions to the foregoing can be made if there is justification for expecting significant changes in the relative prices of certain items during the planning period. If such cases are identified, the expected change in these prices should be made to reflect their future relative deviation from the general price level.

(5) *Interest (discount) rate.*—A rate of 7 percent per year will be used for the cost-effectiveness analysis until the promulgation of the Water Resources Council's "Proposed Principles and Standards for Planning Water and Related Land Resources." After promulgation of the above regulation, the rate established for water resource projects shall be used for the cost-effectiveness analysis.

(6) *Interest during construction.*—In cases where capital expenditures can be expected to be fairly uniform during the construction

period, interest during construction may be calculated as $I \times \frac{1}{2} P \times C$ where:

I = the interest (discount) rate in Section 7(b).
P = the construction period in years.
C = the total capital expenditures.

In cases when expenditures will not be uniform, or when the construction period will be greater than three years, interest during construction shall be calculated on a year-by-year basis.

(7) *Service life.*—The service life of treatment works for a cost-effectiveness analysis shall be as follows:

Land	Permanent
Structures (includes plant buildings, concrete process tankage, basins, etc.; sewage collection and conveyance pipelines; lift station structures; tunnels; outfalls)	30-50 years
Process equipment (includes major process equipment such as clarifier mechanisms, vacuum filters, etc.; steel process tankage and chemical storage facilities; electrical generating facilities on standby service only).	15-30 years
Auxiliary equipment (includes instruments and control facilities; sewage pumps and electric motors; mechanical equipment such as compressors, aeration systems, centrifuges, chlorinators, etc.; electrical generating facilities on regular service).	10-15 years

Other service life periods will be acceptable when sufficient justification can be provided.

Where a system or a component is for interim service and the anticipated useful life is less than the service life, the useful life shall be substituted for the service life of the facility in the analysis.

(8) *Salvage value.*—Land for treatment works, including land used as part of the treatment process or for ultimate disposal of residues, shall be assumed to have a salvage value at the end of the planning period equal to its prevailing market value at the time of the analysis. Right-of-way easements shall be considered to have a salvage value not greater than the prevailing market value at the time of the analysis.

Structures will be assumed to have a salvage value if there is a use for such structures at the end of the planning period. In this case, salvage value shall be estimated using straightline depreciation during the service life of the treatment works.

For phased additions of process equipment and auxiliary equipment, salvage value at the end of the planning period may be estimated under the same conditions and on the same basis as described above for structures.

When the anticipated useful life of a facility is less than 30 years (for analysis of interim facilities), salvage value can be claimed for equipment where it can be clearly demonstrated that a specific market or reuse opportunity will exist.

APPENDIX B

FEDERAL GUIDELINES

USER CHARGES FOR OPERATION AND MAINTENANCE OF PUBLICLY OWNED TREATMENT WORKS

(a) *Purpose.*—To set forth advisory information concerning user charges pursuant to Section 204 of the Federal Water Pollution Control Act Amendments of 1972, PL 92-500, hereinafter referred to as the Act. Applicable requirements are set forth in Subpart E (40 CFR Part 35).

(b) *Authority.*—The Authority for establishment of the user charge guidelines is contained in section 204(b)(2) of the Act.

(c) *Background.*—Section 204(b)(1) of the Act provides that after March 1, 1973, Federal grant applicants shall be awarded grants only after the Regional Administrator has determined that the applicant has adopted or will adopt a system of charges to assure that each recipient of waste treatment services will pay its proportionate share of the costs of operation and maintenance, including replacement. The intent of the Act with respect to user charges is to distribute the cost of operation and maintenance of publicly owned treatment works to the pollutant source and to promote self-sufficiency of treatment works with respect to operation and maintenance costs.

(d) *Definitions.*—(1) *Replacement.*—Expenditures for obtaining and installing equipment, accessories, or appurtenances which are necessary to maintain the capacity and performance during the service life of the treatment works for which such works were designed and constructed. The term "operation and maintenance" includes replacement.

(2) *User charge.*—A charge levied on users of treatment works for the cost of operation and maintenance of such works.

(e) *Classes of users.*—At least two basic types of user charge systems are common. The first is to charge each user a share of the treatment works operation and maintenance costs based on his estimate of measured proportional contribution to the total treatment works loading. The second system establishes classes for users having similar flows and waste water characteristics; i.e., levels of biochemical oxygen demand, suspended solids, etc. Each class is then assigned its share of the waste treatment works operation and maintenance costs based on the proportional contribution of the class to the total treatment works loading. Either system is in compliance with these guidelines.

(f) *Criteria against which to determine the adequacy of user charges.*—The user charge system shall be approved by the Regional Administrator and shall be maintained by the grantee in accordance with the following requirements:

(1) The user charge system must result in the distribution of the cost of operation and maintenance of treatment works within the grantee's jurisdiction to each user (or user class) in proportion to such user's contribution to the total wastewater loading of the treatment works. Factors such as strength, volume, and delivery flow rate characteristics shall be considered and included as the basis for the user's contribution to ensure a proportional distribution of operation and maintenance costs to each user (or user class).

(2) For the first year of operation, operation and maintenance costs shall be based upon past experience for existing treatment works or some other rational method that can be demonstrated to be applicable.

(3) The grantee shall review user charges annually and revise them periodically to reflect actual treatment works operation and maintenance costs.

(4) The user charge system must generate sufficient revenue to offset the cost of all treatment works operation and maintenance provided by the grantee.

(5) The user charge system must be incorporated in one or more municipal legislative enactments or other appropriate authority. If the project is a regional treatment works accepting wastewaters from treatment works owned by others, then the subscribers receiving waste treatment services from the grantee shall have adopted user charge systems in accordance with this guideline. Such user charge systems shall also be incorporated in the appropriate municipal legislative enactments or other appropriate authority.

(g) *Model user charge systems.*—The user charge system adopted by the applicant must result in the distribution of treatment works operation and maintenance costs to each user (or user class) in approximate proportion to his contribution to the total wastewater loading of the treatment works. The following user charge models can be used for this purpose; however, the applicant is not limited to their use. The symbols used in the models are as defined below:

C_T = Total operation and maintenance (O. & M.) costs per unit of time.
C_u = A user's charge for O. & M. per unit of time.
C_s = A surcharge for wastewaters of excessive strength.
V_u = O&M cost for transportation and treatment of a unit of wastewater volume.
V_u = Volume contribution from a user per unit of time.
V_T = Total volume contribution from all users per unit of time.
B_u = O&M cost for treatment of a unit of biochemical oxygen demand (BOD).
B_u = Total BOD contribution from a user per unit of time.
B_T = Total BOD contribution from all users per unit of time.
B = Concentration of BOD from a user above a base level.
S_u = O&M cost for treatment of a unit of suspended solids.
S_u = Total suspended solids contribution from a user per unit of time.
S = Concentration of SS from a user above a base level.
P_u = O&M cost for treatment of a unit of any pollutant.
P_u = Total contribution of any pollutant from a user per unit of time.
P_T = Total contribution of any pollutant from all users per unit of time.
P = Concentration of any pollutant from a user above a base level.

(1) *Model No. 1.*—If the treatment works is primarily flow dependent or if the BOD, suspended solids, and other pollutant concentrations discharged by all users are approximately equal, then user charges can be developed on a volume basis in accordance with the model below:

$$C_u = \frac{C_T}{V_T}(V_u)$$

(2) *Model No. 2.*—When BOD, suspended solids, or other pollutant concentrations from a user exceed the range of concentration of these pollutants in normal domestic sewage, a surcharge added to a base charge, calculated by means of Model No. 1, can be levied. The surcharge can be computed by the model below:

$$C_s = [B_u(B) + S_u(S) + P_u(P)]V_u$$

(3) *Model No. 3.*—This model is commonly called the "quantity/quality formula":

$$C_u = V_uV_u + B_uB_u + S_uS_u + P_uP_u$$

(h) *Other considerations.*—(1) Quantity discounts to large volume users will not be acceptable. Savings resulting from economies of scale should be apportioned to all users or user classes.

(2) User charges may be established based on a percentage of the charge for water usage only in cases where the water charge is based on a constant cost per unit of consumption.

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PART III

ENVIRONMENTAL PROTECTION AGENCY

■

GRANT REGULATIONS AND PROCEDURES

Revision of Part

Title 40—Protection of Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

SUBCHAPTER B—GRANTS

[FRL 305-6]

PART 30—GENERAL GRANT REGULATIONS AND PROCEDURES

On November 27, 1971, interim regulations applicable to all grant programs of the Environmental Protection Agency were published in the FEDERAL REGISTER (36 FR 22716). On August 7, 1973, proposed policy requirements for EPA grants were published (38 FR 21342). After consideration of all comments submitted by interested parties, Agency experience in administering its grant programs, and an analysis of requests for deviation from the interim regulations, the regulations promulgated hereby are adopted and replace the interim and implement the proposed regulations.

Written comments received from interested parties are on file with the Environmental Protection Agency. A number of these comments have been adopted or substantially satisfied by editorial changes in, deletions from, or additions to this Part. The requirements set forth in the interim rules are essentially unchanged except that standards for grantee financial management and property management have been expanded and clarified to more fully implement the grant policy requirements of Office of Management and Budget and General Services Administration Circulars.

Policies and procedures governing procurement by grantees under grants awarded by the Environmental Protection Agency have been deleted from Part 30, expanded and set forth in a new Part 33—Subagreements. Part 33 will be published in the near future. Until Part 33 becomes effective, grant personnel will continue subagreement reviews in accordance with existing practices.

Several comments were received regarding grant-related income. These provisions have been revised and expanded to explain more clearly EPA requirements. These regulations provide that grantees are accountable for income which is directly related to a principal project objective under a grant. Income generated under the governing powers of a State or local government, such as licenses or permit fees, which would have been generated without grant support will not be considered grant-related income.

New provisions delineate Agency policies and procedures for the prevention of conflict of interest involving former and current EPA employees in the award and administration of grants. These policies are designed to assure that personal or organizational conflicts of interest, or the appearance of such conflict of interest, be prevented in the award and administration of EPA grants, including subagreements.

The disputes provisions in Appendix A of the interim regulations have been set forth in a new Subpart J. These provisions will be expanded to provide a more explicit public statement of EPA policies and procedures regarding disputes and appeals. Upon completion of the development of this revised Subpart J, Part 30 will be amended.

The inflationary impact of these regulations has been considered and there is no significant impact.

Suggestions for changes to the regulations promulgated in this Subchapter are solicited on a continuous basis pursuant to 40 CFR 30.125.

Effective date. These regulations shall be effective on June 10, 1975, and shall govern all Environmental Protection Agency grants (including subsequent related projects of grants for construction of treatment works) awarded on or after this date. Grants awarded prior to June 10, 1975, are subject to the interim provisions of 40 CFR Part 30 (36 FR 22716), except to the extent these final regulations are made applicable by mutual agreement through a grant amendment.

Dated: May 2, 1975.

JOHN QUARLES,
Acting Administrator.

40 CFR Part 30 is hereby revised and adopted as a final regulation.

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AUTHORITY: Sec. 20 and 23 of the Federal Insecticide, Fungicide, and Rodenticide Act, as amended (7 U.S.C. 135); (33 U.S.C. 1251; 42 U.S.C. 241, 242b, 243, 246, 300j-1, 300j-2, 300j-3; 1857, 1891, and 3251) et seq.

§ 30.100 Purpose.

This Subchapter establishes and codifies uniform policies and procedures for all grants awarded by the U.S. Environmental Protection Agency (EPA).

§ 30.101 Authority.

This Subchapter is promulgated by the Administrator of the Environmental Protection Agency pursuant to the authority conferred by Reorganization Plan No. 3 of 1970 and pursuant to the following statutes which authorize the award of assistance by the Environmental Protection Agency:

(a) The Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq.);

(b) The Clean Air Act, as amended (42 U.S.C. 1857 et seq.);

(c) The Solid Waste Disposal Act, as amended (42 U.S.C. 3251 et seq.);

(d) The Safe Drinking Water Act (42 U.S.C. 300j-1, 300j-2, 300j-3);

(e) Section 301 et seq. of the Public Health Service Act, as amended (42 U.S.C. 241, 242b, 243, and 246);

(f) Sections 20 and 23 of the Federal Insecticide, Fungicide, and Rodenticide Act, as amended (7 U.S.C. 135); and

(g) The Grant Act (42 U.S.C. 1891 et seq.).

§ 30.105 Applicability and scope.

Parts 30 through 34 of this Subchapter contain policies and procedures which apply to all grants made by the Environmental Protection Agency and are designed to achieve maximum uniformity throughout the various grant programs of the Environmental Protection Agency and, where possible, consistency with other Federal agencies. These policies and procedures are mandatory with respect to all Environmental Protection Agency grants and apply to grants awarded or administered within and outside the United States, unless otherwise specified. Supplementary policies and procedures applicable to only certain grant programs are issued in regulations specifically pertaining to those programs under Part 35 (State and Local Assistance), Part 40 (Research and Demonstration), Part 45 (Training) and Part 46 (Fellowships). Grants or agreements entered into with funds under the Scientific Activities Overseas Program which utilize U.S.-owned excess foreign currencies shall not be subject to this Subchapter.

§ 30.110 Publication.

This Subchapter is published (in Title 40) in the daily issue of the FEDERAL REGISTER and in cumulated form in the Code of Federal Regulations.

§ 30.115 Copies.

Copies of this Subchapter in FEDERAL REGISTER and Code of Federal Regulations form may be purchased from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402.

§ 30.120 Citation.

This Subchapter will be cited in accordance with FEDERAL REGISTER standards. For example, this section, when referred to in divisions of this Subchapter, should be cited as "40 CFR 30.120."

§ 30.125 Public comment.

This Subchapter will be amended from time to time to establish new or improved grant policies and procedures, to simplify and abbreviate grant application procedures, to simplify and standardize grant conditions and related requirements, to include or provide for statutory changes, and to improve Agency and grantee administration of grants. Therefore, public comment is solicited on a continuous basis and may be addressed to the Director, Grants Administration Division, Environmental Protection Agency, Washington, D.C. 20460.

§ 30.130 Grant information.

Application forms and information concerning Agency grants may be obtained through the Grants Administration Division, Environmental Protection Agency, Washington, D.C. 20460, or any EPA regional grants administration office. Addresses of EPA Regional Offices are as follows:

[1] Appendix A filed as part of original document.

Region	Address	States
I	John F. Kennedy Federal Bldg., Boston, Mass. 02203	Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont.
II	26 Federal Plaza, New York, N.Y. 10007	New Jersey, New York, Puerto Rico, Virgin Islands.
III	6th and Walnut, Curtis Bldg., Philadelphia, Pa. 19106	Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia.
IV	1421 Peachtree St. NE., Atlanta, Ga. 30309	Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee.
V	230 South Dearborn St., Chicago, Ill. 60604	Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin.
VI	1600 Patterson St., Dallas, Tex. 75201	Arkansas, Louisiana, New Mexico, Oklahoma, Texas.
VII	1735 Baltimore Ave., Kansas City, Mo. 64108	Iowa, Kansas, Missouri, Nebraska.
VIII	Lincoln Tower, 1860 Lincoln St., Denver, Colo. 80203	Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming.
IX	100 California St., San Francisco, Calif. 94111	Arizona, California, Hawaii, Nevada, American Samoa, Guam, Trust Territories of Pacific Islands, Wake Island.
X	1200 6th Ave., Seattle, Wash. 98101	Alaska, Idaho, Oregon, Washington.

§ 30.135 Definitions.

All terms used in this Subchapter which are defined in the statutes cited in § 30.101 and which are not defined in this Section, shall have the meaning given to them in the relevant statutes. As used throughout this Subchapter, the words and terms defined in this Section shall have the meanings set forth below, unless (a) the context in which they are used clearly requires a different meaning, or (b) a different definition is prescribed for a particular part or portion thereof. The words and terms defined in this Section shall have the meanings set forth herein whenever used in any correspondence, directives, orders, or other documents of the Environmental Protection Agency relating to grants, unless the context clearly requires a different meaning.

§ 30.135–1 Administrator.

The Administrator of the Environmental Protection Agency, or any person authorized to act for him.

§ 30.135–2 Agency.

The United States Environmental Protection Agency (EPA).

§ 30.135–3 Allowable costs.

Those costs permitted under the appropriate Federal cost principles (see § 30.710).

§ 30.135–4 Applicant.

Any individual, agency, or entity which has filed a preapplication or an application for a grant pursuant to this Subchapter.

§ 30.135–5 Budget.

The financial plan for expenditure of all Federal and non-Federal funds for a project, including other Federal assistance, developed by cost components in the grant application.

§ 30.135–6 Budget period.

The period specified in the grant agreement during which granted Federal funds are authorized to be expended, obligated, or firmly committed by the grantee for the purposes specified in the grant agreement.

§ 30.135–7 Educational institution.

Any institution which (a) has a faculty, (b) offers courses of instruction, and (c) is authorized to award a degree or certificate upon completion of a specific course of study.

§ 30.135–8 Eligible costs.

Those allowable costs which are within the scope of the project and authorized for EPA participation.

§ 30.135–9 Federal assistance.

The entire Federal contribution for a project including, but not limited to, the EPA grant amount.

§ 30.135–10 Grant.

An award of funds or other assistance by a written grant agreement purusant to this Subchapter, except fellowships.

§ 30.135–11 Grant agreement.

The written agreement and amendments thereto between EPA and a grantee in which the terms and conditions governing the grant are stated and agreed to by both parties pursuant to § 30.345.

§ 30.135–12 Grant approving official.

The EPA official designated to approve grants and take other grant related actions authorized by Environmental Protection Agency Orders or this Subchapter (sometimes referred to as the Decision Official).

§ 30.135–13 Grant award official.

The EPA official authorized to execute a grant agreement on behalf of the Government.

§ 30.135–14 Grantee.

Any individual, agency, or entity which has been awarded a grant pursuant to § 30.345.

§ 30.135–15 In-kind contribution.

The value of a non-cash contribution provided by (a) the grantee, (b) other public agencies and institutions, (c) private organizations and individuals, or (d) EPA. An in-kind contribution may consist of charges for real property and equipment and value of goods and services directly benefiting and specifically identifiable to the grant program.

§ 30.135–16 Nonprofit organization.

Any corporation, trust, foundation, or institution (a) which is entitled to exemption under section 501(c)(3) of the Internal Revenue Code, or (b) which is not organized for profit and no part of the net earnings of which inure to the benefit of any private shareholder or individual.

§ 30.135–17 Project.

The undertaking identified in the grant agreement which will receive EPA assistance. The term project may refer to a program (e.g., State water pollution control program, air pollution control program) for the budget period for which EPA assistance is provided.

§ 30.135–18 Project costs.

All costs incurred by a grantee in accomplishing the objectives of a grant project, not limited to those costs which are allowable in computing the final EPA grant amount or total Federal assistance.

§ 30.135–19 Project Officer.

The EPA official designated in the grant agreement as the Agency's principal contact with the grantee on a particular grant. This person is the individual responsible for the performance and/or coordination of project monitoring.

§ 30.135–20 Project period.

The period of time specified in the grant agreement as estimated to be required for completion of the project for which Federal grant support has been requested. It is composed of one or more budget periods.

§ 30.135–21 Regional Administrator.

The Regional Administrator of one of the 10 EPA Regional Offices, or any person authorized to act for him.

§ 30.135–22 Subagreement.

A written agreement between a grantee and third party and any tier of agreement thereunder for the furnishing of services, supplies, or equipment necessary to complete the project for which a grant was awarded, included contracts for personal and professional services, purchase orders, and consultant agreements.

Subpart A—Basic Policies

§ 30.200 Grant simplification goals and policy.

It is EPA policy that, consistent with protection of the public interest, procedures used in administering and implementing grant programs shall encourage the minimization of paperwork and intraagency decision procedures, and the best use of available manpower and funds, to prevent needless duplication and unnecessary delays.

§ 30.205 Role of EPA.

The Environmental Protection Agency has a mandate to protect and enhance the environment. Grants and fellowships are among EPA's principal means of achieving its objectives. EPA financial assistance may be awarded to support State and local governments, research, demonstration, or training projects, fellowships and such other programs that advance the Agency's mission.

§ 30.210 Role of the grantee.

An award of a grant shall be deemed to constitute a public trust. It is the responsibility of the grantee to comply with this Subchapter and all terms and conditions of the grant agreement, efficiently and effectively manage grant funds within the approved budget, complete the undertaking in a diligent and professional manner, and monitor and report performance. This responsibility may be neither delegated nor transferred by the grantee.

§ 30.215 Records of grant actions.

(a) An official EPA file shall be established for each EPA grant. To the extent that retained copies of documents do not represent all significant actions taken, suitable memoranda or summary statements of such undocumented actions must be prepared promptly and retained in the grant file.

(b) The grantee shall establish an official file for each grant received from EPA. The file should contain documentation of all actions taken with respect to the grant (see § 30.805).

§ 30.220 Consolidated grants.

A consolidated grant is a grant funded under more than one grant authority by EPA or a grant awarded in conjunction with one or more Federal agencies (e.g., Integrated Grant Administration (IGA) grant). Application for and award and administration of a consolidated grant must conform to this Subchapter, except as the Director, Grants Administration Division, may otherwise direct with respect to substatutory requirements. Those conditions and procedures will conform to this Subchapter to the greatest extent practicable.

§ 30.225 Foreign grants.

(a) A foreign grant, as used in this Part, means an EPA award for such project, all or any part of which will be performed in a foreign country by (1) a U.S. grantee, (2) a foreign grantee, or (3) an international organization.

(b) Grant applications for work performed in the United States shall generally be given preference over applications for similar work to be performed in a foreign country.

(c) Foreign grants shall comply with this Subchapter and shall be awarded and administered pursuant to such additional conditions and procedures as may be established by EPA. Grants or agreements entered into with funds under the Scientific Activities Overseas Program which utilize U.S.-owned excess foreign currencies shall not be subject to this Subchapter.

§ 30.225–1 Clearance requirements.

The total amount of foreign awards financed by EPA during a fiscal year may not exceed any ceilings on foreign obligations which may be established for that fiscal year by the Office of Management and Budget. Department of State clearance must be obtained by EPA through the EPA Office of International Activities prior to the award of a foreign grant.

§ 30.225–2 Criteria for award.

All of the following criteria must be met before a foreign grant may be awarded:

(a) The foreign proposal is outstanding or original in concept and important to the achievement of EPA program objectives;

(b) The proposed work must be performed outside the United States because of unusual personnel or material resources available, or other existing conditions;

(c) The proposed work is urgently needed by the sponsoring program office and constitutes a timely opportunity which would be lost if not supported at this time; and

(d) An adequate level of funding cannot be obtained for the foreign work by the applicant without financial support from EPA.

§ 30.225–3 Allowability of costs.

(a) Travel costs are allowable for foreign grants if itemized in the application and approved by EPA as part of the grant agreement or if approved in writing by EPA in advance of each trip.

(b) Indirect costs are not allowable for foreign grants, except that in the case of a U.S. grantee performing only a part of a project in a foreign country, indirect costs are allowed for that part of the work performed in the United States.

(c) Cost sharing is not required for foreign grants, except that in the case of a U.S. grantee performing only a part of a project in a foreign country, cost sharing is required on that part of the work performed in the United States.

§ 30.225–4 Payments.

(a) All payments will be made in U.S. currency unless otherwise specified in the grant agreement. If payment is made in foreign currency, payments will be in an amount equal at the time of payment to the United States dollars awarded.

(b) Refunds and rebates should be made in the currency of the original payment and shall be in an amount equal, at the time of payment, to United States dollars awarded.

§ 30.230 Grants administration review.

The Director, Grants Administration Division, shall conduct such review, as he deems appropriate, of the administration of each EPA grant program or of grants awarded by a particular EPA office to determine compliance with the policies and procedures of this Subchapter and to determine further steps necessary to implement § 30.200.

§ 30.235 Disclosure of information.

(a) EPA policy concerning release of information under the Freedom of Information Act, 5 U.S.C. 552, is stated in Part 2 of this Chapter. Applicants for grants, grantees, and their contractors should be aware that information provided to EPA is subject to disclosure to others pursuant to the Freedom of Information Act. In addition EPA acquires the right, unless otherwise provided in a grant agreement, to use and disclose project data, pursuant to Appendix C to this Part.

(b) Any person who submits to EPA any information under this Part, and who desires that EPA not disclose any or all of the information, must ensure that at the time the information is first received by EPA it is accompanied by a clear and prominently written claim, consisting of a cover sheet, stamp, typed legend or other suitable form of notice on (or attached to) the document or other record containing the information, employing language such as "trade secret," "confidential" or "proprietary" (see § 30.230). Where only one of more portions of a submission are claimed to be entitled to nondisclosure, each such portion shall be identified. Information received by EPA which is not accompanied by a claim in accordance with this section may be made available to the public without prior notice to the party which furnished the information in accordance with Part 2 of this Chapter.

(c) Unless a specific provision (special condition) in the grant otherwise provides, information submitted in an application or other submission with a restrictive marking will nevertheless be subject to the Government's duty to disclose information pursuant to the Freedom of Information Act and the Government's rights to utilize data pursuant to Appendix C of this Part.

§ 30.245 Fraud and other unlawful or corrupt practices.

(a) The award and administration of EPA grants, and of subagreements awarded by grantees under those grants, must be accomplished free from bribery, graft, kickbacks, and other corrupt practices. The grantee bears the primary responsibility for the prevention, detection and cooperation in the prosecution of any such conduct; Federal administrative or other legally available remedies will be pursued, however, to the extent appropriate.

(b) The grantee must effectively pursue available State or local legal and administrative remedies, and take appropriate remedial action with respect to any allegations or evidence of such illegality or corrupt practices which are brought to its attention. The grantee must advise the Project Officer immediately when such allegation or evidence comes to its attention, and must periodically advise the Project Officer of the status and ultimate disposition of any matter, including those referred pursuant to Paragraph (c) of this section.

(c) If any allegations, evidence or even appearance of such illegality or corrupt practices comes to the attention of the EPA Project Officer, he must promptly report briefly in writing the substance of the allegations or evidence to the Director, EPA Security and Inspection Division. When so advised by the Director, EPA Security and Inspection Division, he must bring the matter to the attention of the grantee for action.

(d) If any allegations, evidence or even appearance of such illegality or corrupt practices comes to the attention of any other EPA employee, he must promptly report briefly in writing the substance of the allegation or evidence to the Director, EPA Security and Inspection Division.

(e) A person, firm, or organization which is demonstrated upon adequate evidence to have been involved in bribery or other unlawful or corrupt practices on a Federally-assisted project may be determined nonresponsible and ineligible by the Director, Grant Administration Division, or an EPA grant award or for the award of a contract under an EPA grant, pursuant to § 30.340–3(c). The Director, Grants Administration Division, shall make such determination whenever he determines there is adequate evidence of such involvement, after opportunity for conference (with right of counsel) has been afforded to the affected person, firm, or organization. Such determination shall be binding upon EPA grant personnel. The Director, Grants Administration Division, shall notify EPA grant personnel and other appropriate persons of such determination or of any termination, modification, or suspension of the determination. The grantee may appeal a determination of the Director, Grants Administration Division, made pursuant to this section (see Subpart J of this part).

Subpart B—Application and Award

§ 30.300 Preapplication procedures.

(a) Informal inquiries by potential grant applicants prior to application submission are encouraged to expedite preparation and evaluation of the grant application documents. Such inquiries may relate to procedural or substantive matters and may range from informal telephone advice to pre-arranged briefings of individuals or classes of potential applicants. Questions should be directed to the appropriate Environmental Protection Agency program office from which funding is being sought or to the grants administration office in Headquarters or in the region in which the applicant is located. Inquiries may be directed to State officials for applications which include State participation in the review process (e.g., grants for construction of treatment works.)

(b) Submission of preapplications to EPA is encouraged for all research, demonstration, and training grant programs to (1) establish communication between EPA and the applicant; (2) determine applicant's eligibility; (3) determine how well the project can compete with similar applications; and (4) eliminate any proposal which has no chance for funding.

(c) An applicant submitting a preapplication to the grants administration office shall be promptly notified that (1) the preapplication has been received; (2) it has been forwarded to the appropriate program for an expression of interest, and (3) the program office will contact the applicant directly regarding possible followup action.

(d) Generally, preapplication processing requires 45 days and is not part of the 90 day review period for formal grant applications.

§ 30.305 A–95 procedures.

Pursuant to OMB Circular A–95 (revised) (38 FR 32874, November 28, 1973), applicants for certain types of projects must comply with the appropriate coordination procedures, generally prior to submitting a grant application. In certain cases, however, clearinghouses will be afforded the opportunity to comment during the initial phases of project work (e.g., development of facilities plan). The appropriate supplemental regulations of this subchapter prescribe the procedures to be followed. The A–95 procedures include but are not limited to the following:

(a) *Project Notification and Review System (PNRS).* Applicants for grants under EPA programs providing assistance to States and localities must notify both the State and areawide clearinghouses of their intent to apply for Federal assistance, generally prior to the preparation of the application.

(b) *State plans and multisource programs.* (1) Applicants for grants under EPA programs requiring a State plan as a condition for assistance must allow the Governor, or his delegated agency, the opportunity to comment on the relationship of the proposed program to the State plan. Opportunity for review must be provided prior to submission of the application.

(2) Applicants for multisource programs must afford both State and areawide clearinghouses the opportunity for review prior to submission of the application.

(c) *Coordination of Planning and Development in Multijurisdictional Areas.* Applicants for planning and development assistance must demonstrate in the application that the proposed activity is consistent with and has been coordinated with related planning and development being carried on under other Federal programs or under State and local programs in any multijurisdictional areas.

§ 30.310 Unsolicited proposal.

(a) For purposes of this Subchapter, an unsolicited proposal is a written offer to perform work which (1) does not result from (i) a formal written EPA request for contract proposals or quotations, or (ii) an oral quotation solicited under EPA small purchase procedures, (2) is not submitted on a grant preapplication or application form, and (3) is intended to result in award of an EPA grant or contract.

(b) Unsolicited proposals received by any organizational element of EPA shall be forwarded immediately to the Grants Administration Division for official receipt and processing. The Grants Administration Division will acknowledge receipt to the person or organization submitting the proposal and transmit the proposal to the appropriate program office for evaluation. If the program office decides to consider the proposal for a grant award, a grant application pursuant to § 30.315 will be required. If the proposal is to be recommended for funding under the contract mechanism, appropriate notification will be forwarded from the program office to the Grants Administration Division for closeout of the file.

§ 30.315 Application requirements.

Submittals which substantially comply with this Subchapter shall be deemed to be applications. An application shall include the completed application form, technical documents and supplementary materials furnished by the applicant. Submittals which do not substantially comply with this Subchapter shall be returned to the applicant.

§ 30.315–1 Signature.

(a) Applications must be signed by the applicant or a person authorized to obligate the applicant to the terms and conditions of the grant, if approved.

(b) Each grant application shall constitute an offer to accept the requirements of this Subchapter and the terms and conditions of the grant agreement.

(c) An applicant may be prosecuted under Federal, State, or local statutes for any false statement, misrepresentation, or concealment made as part of an application for EPA grant funds.

§ 30.315–2 Forms.

The following forms shall be used in applying for an EPA grant.

Type of application	Type of applicant	
	Other than State and local	State and local governmental agencies
Preapplication (optional)	EPA Form 5700-12 (optional).	EPA Form 5700-33.
Research, demonstration, and training grants.	EPA Form 5700-12.	EPA Form 5700-12 (or EPA Form 5700-33).
Program and planning grants.	Not applicable	EPA Form 5700-33
Consolidated grants.	EPA Form 5700-12.	Do.
Wastewater treatment construction grants.	Not applicable	EPA Form 5700-32.

§ 30.315–3 Time of submission.

Applications should be submitted well in advance of the desired grant award date. Generally, processing of a complete grant application requires 90 days after receipt of the application by EPA.

§ 30.315–4 Place of submission.

Place of submission varies with type of grant for which application is being made. Therefore, instructions regarding place of submission are included in each grant application kit.

§ 30.320 Use and disclosure of information.

(a) All grant applications, preapplications, and unsolicited proposals, when received by EPA, constitute agency records. As such, their release may be requested by any member of the public under the Freedom of Information Act, 5 U.S.C. 552, and must be disclosed to the requester unless exempt from disclosure under 5 U.S.C. 552(b). EPA regulations

implementing 5 U.S.C. 552 are published in Part 2 of this Chapter.

(b) Any person who submits to EPA a grant application, preapplication, unsolicited proposal or other information under this Part, and who desires that EPA not disclose any or all of the information, shall ensure that at the time the information is first received by EPA it is accompanied by a clear and prominently written claim, consisting of a cover sheet, stamp, typed legend or other suitable form of notice on (or attached to) each such document or record received by EPA, employing language such as "trade secret," "confidential" or "proprietary." Where only one or more portions of a submission are claimed to be entitled to nondisclosure, each such portion shall be identified. Information received by EPA which is not accompanied by a claim in accordance with this section may be made available to the public without prior notice to the party which submitted the information in accordance with Part 2 of this Chapter.

(c) Any person who submits a grant application, preapplication or unsolicited proposal to EPA shall be deemed by EPA to have thereby consented to review of that application, preapplication or proposal by extramural reviewers, as appropriate under § 40.150(a) of this Chapter, unless a specific and conspicuous statement to the contrary appears on the face of the document. Extramural reviewers' recommendations shall not be disclosed.

(d) If a grant or subagreement is awarded to a submitter in response to his application, preapplication or unsolicited proposal, EPA shall treat the information in the application, preapplication, unsolicited proposal or resulting grant or contract as available to the public and free from any limitation on use or disclosure, notwithstanding any legend asserting a claim for nondisclosure except to the extent otherwise expressly provided by special condition in the grant.

§ 30.325 Evaluation of application.

Each applicant shall be notified that the application has been received and is in the process of evaluation pursuant to this Subchapter. Each application shall be subjected to a (a) preliminary administrative review to determine the completeness of the application, (b) program, technical, and scientific evaluation to determine the merit and relevance of the project to EPA program objectives, (c) budget evaluation to determine whether proposed project costs are eligible, reasonable, applicable, and allowable, and (d) final administrative evaluation. Recommendations and comments received as a result of extramural review pursuant to § 40.150(a) of this Subchapter shall be considered in the evaluation process.

§ 30.330 Supplemental information.

The applicant may, at any stage during the evaluation process, be requested to furnish documents or information required by this Subchapter and necessary to complete the application. The evaluation may be suspended until such additional information or documents have been received.

§ 30.335 Criteria for award of grant.

Each application shall be evaluated in accordance with the requirements and criteria established pursuant to this Subchapter and promulgated herein. Program award criteria may be found in Parts 35, 40, 45, and 46 of this Subchapter. Grants may be awarded without regard to substatutory criteria in exceptional cases if a deviation pursuant to Subpart I of this Subchapter has been approved.

§ 30.340 Responsible grantee.

The policy and procedures established by this section shall be followed to determine, prior to award of any grant, whether an applicant will qualify as a responsible grantee. A responsible grantee is one which meets, and will maintain for the life of the grant, the minimum standards set forth in § 30.340–2 and such additional standards as may be prescribed and promulgated for a specific purpose.

§ 30.340–1 General policy.

The award of grants to applicants who are not responsible is a disservice to the public, which is entitled to receive full benefit from the award of grants for the protection and enhancement of the environment. It frequently is inequitable to the applicants themselves, who may suffer hardship, sometimes even financial failure, as a result of inability to meet grant or project requirements. Moreover, such awards are unfair to other competing applicants capable of performance, and may discourage them from applying for future grants. It is essential, therefore, that precautions be taken to award grants only to reliable and capable applicants who can reasonably be expected to comply with grant and project requirements.

§ 30.340–2 Standards.

To qualify as responsible, an applicant must meet and maintain for the life of the proposed grant the following standards as they relate to a particular project:

(a) Have adequate financial resources for performance, the necessary experience, organization, technical qualifications, and facilities, or a firm commitment, arrangement, or ability to obtain such (including proposed subagreements);

(b) Be able to comply with the proposed or required completion schedule for the project;

(c) Have a satisfactory record of integrity, judgment, and performance, including in particular, any prior performance upon grants and contracts from the Federal Government;

(d) Have an adequate financial management system and audit procedure which provides efficient and effective accountability and control of all property, funds, and assets. Applicable standards are further defined in § 30.800;

(e) Maintain a standard of procurement which will comply with Part 33 of this Subchapter;

(f) Maintain a property management system which provides adequate procedures for the acquisition, maintenance, safeguarding, and disposition of all property. Applicable standards are further defined in § 30.810;

(g) Conform with the civil rights, equal employment opportunity, and labor law requirements of this Chapter;

(h) Be otherwise qualified and eligible to receive a grant award under applicable laws and regulations.

§ 30.340–3 Determination of responsibility.

Submission of a grant application shall constitute an applicant's assurance that he can and will meet the standards set forth in § 30.340–2. An applicant may be presumed to be responsible in the absence of any question as to his ability to meet the standards. This presumption of responsibility, however, shall not preclude EPA from performing a preaward audit or other review of an applicant's ability to comply with any or all of the above standards. Any applicant who is determined to be not responsible will be notified in writing of such finding and the basis therefor. A copy of such written notification shall be included in the official EPA file.

§ 30.345 Award of grant.

Generally, within 90 days after receipt of a completed application (excluding suspension periods for submission of supplemental information), the EPA Grant Approving Official will take one of the following actions: (a) Approve for grant award, (b) defer due to lack of funding, or (c) disapprove the application. The applicant shall be promptly notified in writing of any deferral or disapproval. A deferral or disapproval of an application shall not preclude its reconsideration or a reapplication. The applicant shall not be notified by EPA of an approval or grant award prior to transmittal of the grant agreement for execution by the applicant pursuant to § 30.345–3.

§ 30.345–1 Amount and term of grant.

The amount and term of a grant shall be determined at the time of grant award.

§ 30.345–2 Federal share.

The Federal share shall be set forth in the grant agreement expressed both as a dollar amount and as a percentage of approved eligible project costs. Such dollar amount shall represent the grant ceiling. The grantee must exert its best efforts to perform the project work as specified in the grant agreement within the approved cost ceiling. If at any time the grantee becomes aware that the costs which it expects to incur in the performance of the project will exceed or be substantially less than the then-approved estimated total project cost, the grantee must notify the Project Officer promptly in writing to that effect, pursuant to § 30.900. The United States shall not be

obligated to participate in costs incurred in excess of the budget approved in the grant agreement or any amendment thereto. Grant payments will be made pursuant to § 30.615.

§ 30.345–3 Grant agreement.

Upon execution of the grant agreement by EPA, the appropriate EPA grants administration office will transmit the grant agreement (certified mail, return receipt requested) to the applicant for execution. The grant agreement must be executed by the applicant and returned within 3 calendar weeks after receipt, or within any extension of such time that may be granted by the EPA grants administration office. The grant agreement shall set forth the approved project scope, budget (including the EPA share), total project costs, and the approved commencement and completion dates for the project or major phases thereof.

§ 30.345–4 Costs incurred prior to execution.

Except as may be otherwise provided by statute or this Subchapter, costs may not be incurred prior to the execution of the grant agreement by both parties thereto.

§ 30.345–5 Effect of grant award.

(a) The grant shall become effective and shall constitute an obligation of Federal funds in the amount and for the purposes stated in the grant agreement, at the time of execution of the grant agreement by the EPA grant award official.

(b) Neither the approval of a project nor the award of any grant shall commit or obligate the United States to award any continuation grant or enter into any grant amendment, including grant increases to cover cost overruns, with respect to any approved project or portion thereof.

§ 30.350 Limitation on award.

(a) No grant may be awarded if the project will be performed at a facility listed by the Director, Office of Federal Activities, in violation of the requirements set forth in § 30.420–3 and Part 15 of this Chapter.

(b) No grant may be awarded if there is a personal or organizational conflict of interest, or the appearance of such conflict of interest (see § 30.420)

§ 30.355 Continuation grants.

(a) When an original grant award includes a provision for more than one budget period within the project period, EPA presumes that continuation grants for the subsequent budget periods will be awarded, subject to availability of funds and Agency priorities, as determined by the Administrator, if the grantee:

(1) Has demonstrated satisfactory performance during all previous budget periods; and

(2) Submits no later than 90 days prior to the end of the budget period a continuation application which includes a detailed progress report; a financial statement for the current budget period, including an estimate of the amount of unspent, uncommitted funds which will be carried over beyond the term of the prior grant; a budget for the new budget period; an updated work plan revised to account for actual progress accomplished during the current budget period; and any other reports as may be required by the grant agreement.

(b) Review of continuation applications will be conducted expeditiously. Generally, no extramural review will be required.

(c) Costs incurred after the end of the previous budget period may be allowed under the continuation grant provided that no longer than 30 days has elapsed between the end of the budget period and the execution of the continuation grant agreement.

Subpart C—Other Federal Requirements

§ 30.405 Statutory conditions.

Compliance with the following statutory requirements, in addition to such other statutory provisions as may be applicable to particular grants or grantees or classes of grants or grantees, is a condition to each EPA grant.

§ 30.405–1 National Environmental Policy Act.

The National Environmental Policy Act of 1969, 42 U.S.C. 4321 et seq., as amended, and regulations issued thereunder, 40 CFR Part 6, particularly as it relates to the assessment of the environmental impact of federally assisted projects. Where an environmental assessment is required by 40 CFR Part 6, an adequate environmental assessment must be prepared for each project by the applicant or grantee.

§ 30.405–2 Uniform Relocation Assistance and Real Property Acquisition Policies Act.

The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, 42 U.S.C. 4621 et seq., 4651 et seq., and the regulations issued thereunder, 40 CFR Part 4. Grantees must assure that any acquisition of interest in real property or any displacement of persons, businesses, or farms is conducted in compliance with the requirements of the Act and the regulations, and must submit regular reports concerning their activities under the Act, pursuant to § 30.635–6

§ 30.405–3 Civil Rights Act of 1964.

The Civil Rights Act of 1964, 42 U.S.C. 2000a et seq., as amended, and particularly Title VI thereof, which provides that no person in the United States shall on the grounds of race, color, or national origin be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance, as implemented by regulations issued thereunder, 40 CFR Part 7. The grantee must assure compliance with the provisions of the Act and regulations.

§ 30.405–4 Federal Water Pollution Control Act Amendments of 1972, Section 13.

Section 13 of the Federal Water Pollution Control Act Amendments of 1972 (86 Stat. 816) provides that no person in the United States shall on the grounds of sex be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving assistance under the Federal Water Pollution Control Act, as amended (86 Stat. 816) or the Environmental Financing Act (86 Stat. 899). The applicant or grantee must assure compliance with the provisions of section 13 and the regulations issued thereunder including 40 CFR Part 12.

§ 30.405–5 Title IX of the Education Amendments of 1972.

Title IX of the Education Amendments of 1972, 20 U.S.C. 1681, et seq., provides that no person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any educational program or activity receiving Federal financial assistance.

§ 30.405–6 Hatch Act.

The Hatch Act, 5 U.S.C. 1501 et seq., as amended, relating to certain political activities of certain State and local employees. State and local government grantees must ensure compliance on the part of their employees who are covered by the Hatch Act. A State or local officer or employee is covered by the Hatch Act on political activity if his principal employment is in connection with an activity which is financed in whole or in part by loans or grants made by the United States or a Federal agency. He is subject to the Act, if as a normal and foreseeable incident to his principal job or position, he performs duties in connection with an activity financed in whole or in part by Federal loans or grants. Specifically excluded is an individual who exercises no functions in connection with that activity; or an individual employed by an educational or research institution, establishment, agency, or system which is supported in whole or in part by a State or political subdivision thereof, or by a recognized religious, philanthropic, or cultural organization.

§ 30.405–7 National Historic Preservation Act.

The National Historic Preservation Act of 1966, 16 U.S.C. 470 et seq., as amended, relating to the preservation of historic landmarks. Applicants must consult the National Register of Historic Places (published in the FEDERAL REGISTER) to determine if a National Register property (or one eligible for inclusion in the Register) is located within the area of the proposed project's environmental impact and observe required procedures.

§ 30.405–8 Public Law 93–291.

Public Law 93–291 (referred to as Archeological and Historic Preservation Act of 1974) relating to potential loss or destruction of significant scientific, historical, or archeological data in connection with Federally assisted activities.

§ 30.405–9 Demonstration Cities and Metropolitan Development Act and Intergovernmental Cooperation Act.

The Demonstration Cities and Metropolitan Development Act of 1966, 42 U.S.C. 3301 et seq., as amended, and particularly Section 204 thereof, requires that applications for Federal assistance for a wide variety of public facilities projects in metropolitan areas must be accompanied by the comments of an areawide comprehensive planning agency covering the relationship of the proposed project to the planned development of the area. The Intergovernmental Cooperation Act of 1968, 42 U.S.C. 4201 et seq., as amended, requires coordination by and among local, regional, State, and Federal agencies with reference to plans, programs, and development projects and activities. Compliance with these two Acts is ensured by adherence to procedures in OMB Circular No. A–95 (revised) (38 FR 32874, Nov. 28, 1973). Applicants must follow the coordination procedures established by that Circular prior to submitting an application (see § 30.305).

§ 30.405–10 Flood Disaster Protection Act.

(a) *General.* (1) The Flood Disaster Protection Act of 1973 (Pub. L. 93–234, December 31, 1973), requires grantees to purchase flood insurance on and after March 2, 1974, as a condition of receiving any form of Federal assistance for construction purposes or for the acquisition of any real or nonexpendable personal property in an identified special flood hazard area that is located within any community currently participating in the National Flood Insurance Program. The National Flood Insurance Program is a Federal program authorized by the National Flood Insurance Act of 1968, 42 U.S.C. 4001–4127, as amended.

(2) For any community that is not participating in the flood insurance program on the date of execution of the grant agreement by both parties, the statutory requirement for the purchase of flood insurance does not apply. However, after July 1, 1975, or one year after notification of identification as a flood-prone community, whichever is later, the requirement will apply to all identified special flood hazard areas within the United States, which have been delineated on Flood Hazard Boundary Maps or Flood Insurance Rate Maps issued by the Department of Housing and Urban Development (HUD). Thereafter, no financial assistance can legally be provided for real or nonexpendable personal property or for construction purposes in these areas unless the community has entered the program and flood insurance is purchased.

(3) Regulations pertaining to the National Flood Insurance Program are published in Title 24 of the Code of Federal Regulations, commencing at Part 1909. HUD guidelines regarding the mandatory purchase of insurance have been published in the FEDERAL REGISTER at 39 FR 26186–93, July 17, 1974. Additional information may be obtained from the regional offices of the Department of Housing and Urban Development, or from the Federal Insurance Administration, HUD, Washington, D.C. 20410.

(b) *Wastewater treatment construction grants.* (1) The grantee (or the construction contractor, as appropriate) must acquire any flood insurance made available to it under the National Flood Insurance Act of 1968 as amended beginning with the period of construction and maintain such insurance for the entire useful life of the project, if the total value of insurable improvements is $10,000 or more.

(2) The amount of insurance required is the total project cost, excluding facilities which are uninsurable under the National Flood Insurance Program such as bridges, dams, water and sewer lines, and underground structures, and excluding the cost of the land, or the maximum limit of coverage made available to the grantee under the National Flood Insurance Act, whichever is less.

(3) The required insurance premium for the period of construction is an allowable project cost.

(c) *Other grant programs.* (1) A grantee must acquire and maintain any flood insurance made available to it under the National Flood Insurance Act of 1968, as amended, if the approved project includes (i) any construction-type activity, or (ii) any acquisition of real or nonexpendable personal property, and the total cost of such activities and acquisition is $10,000 or more.

(2) The amount of insurance required is the total cost of any insurable nonexpendable personal or real property acquired, improved, or constructed, excluding the cost of land, with any portion of this grant, or the maximum limit of coverage made available to the grantee under the National Flood Insurance Act, as amended, whichever is less, for the entire useful life of the property.

(3) The required insurance premium for the period of project support is an allowable project cost.

(4) If EPA provides financial assistance for personal property to a grantee that the Agency has previously assisted with respect to real estate at the same facility in the same location, EPA must require flood insurance on the previously-assisted building as well as on the personal property. The amount of flood insurance required on the building will be based upon its current value, however, and not on the amount of assistance previously provided.

§ 30.405–11 Clean Air Act, Section 306.

Section 306 of the Clean Air Act, 42 U.S.C. 1857h–4, as amended, prohibiting award of assistance by way of grant, loan, or contract to noncomplying facilities (see § 30.410–4, Executive Order 11738).

§ 30.405–12 Federal Water Pollution Control Act, Section 508.

Section 508 of the Federal Water Pollution Control Act, 33 U.S.C. 1251, as amended, prohibiting award of assistance by way of grant, loan, or contract to noncomplying facilities (see § 30.410–4, Executive Order 11738).

§ 30.410 Executive Orders.

Compliance with the following Executive Orders is a condition of each EPA grant.

§ 30.410–1 Executive Order 11246.

Executive Order 11246 dated September 24, 1965, as amended, with regard to equal employment opportunities, and all rules, regulations and procedures prescribed pursuant thereto (40 CFR Part 8).

§ 30.410–2 Executive Order 11296.

Executive Order 11296 dated August 10, 1966, regarding evaluation of flood hazard in locating federally owned or financed buildings, roads, and other facilities, and in disposing of Federal lands and properties.

§ 30.410–3 Executive Order 11514.

Executive Order 11514 dated March 5, 1970, providing for the protection and enhancement of environmental quality in furtherance of the purpose and policy of the National Environmental Policy Act of 1969 (40 CFR Part 6).

§ 30.410–4 Executive Order 11738.

Executive Order 11738 dated September 12, 1973, which prohibits any Federal agency, grantee, contractor, or subcontractor from entering into, renewing, or extending any nonexempt grant or subagreement (contract or subcontract) which in the performance of the grant or subagreement utilizes any facility included on the EPA List of Violating Facilities (40 CFR Part 15). By so doing, the Executive Order requires compliance with the Clean Air Act and the Federal Water Pollution Control Act (see § 30.420–3).

§ 30.415 Additional requirements—federally assisted construction.

Grants for projects that involve construction are subject to the following additional requirements.

§ 30.415–1 Davis-Bacon Act.

The Davis-Bacon Act, as amended, 40 U.S.C. 276a et seq., and the regulations issued thereunder, 29 CFR 5.1 et seq., respecting wage rates for federally assisted construction contracts in excess of $2,000.

§ 30.415–2 The Copeland Act.

The Copeland (Anti-Kickback) Act, 18 U.S.C. 874, 40 U.S.C. 276c, and the regulations issued thereunder, 29 CFR 3.1 et seq.

§ 30.415–3 The Contract Work Hours and Safety Standards Act.

The Contract Work Hours and Safety Standards Act, 40 U.S.C. 327 et seq., and the regulations issued thereunder, 29 CFR Parts 5 and 1518.

§ 30.415–4 Convict labor.

Convict labor shall not be used in EPA assisted construction unless it is labor performed by convicts who are on work release, parole or probation.

§ 30.420 Additional requirements—all EPA grants.

Compliance with the following requirements is a condition of each EPA grant.

§ 30.420–1 Prohibition against contingent fees.

No person or agency may be employed or retained to solicit or secure a grant upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee. For violation of this prohibition, EPA shall have the right to annul the grant without liability or in its discretion to deduct from the grant award, or otherwise recover, the full amount of any commission, percentage, brokerage or contingent fee.

§ 30.420–2 Officials not to benefit.

No member of, or delegate to Congress or Resident Commissioner, shall be permitted to any share or part of a grant, or to any benefit that may arise therefrom; but this provision shall not be construed to extend to a grant if made with a corporation for its general benefit.

§ 30.420–3 Prohibition against violating facilities.

(a) *List of violating facilities.* Pursuant to 40 CFR Part 15, the Director, Office of Federal Activities, EPA, shall maintain a list that includes those facilities which have been designated to be in noncompliance with either the Clean Air Act or the Federal Water Pollution Control Act and with which no Federal agency, grantee, contractor, or subcontractor shall enter into, renew, or extend any nonexempt grant, contract, or subcontract. For the purpose of this subsection, the term "facility" means any building, plant, installation, structure, mine, vessel or other floating craft, location, or site of operations owned, leased, or supervised by an applicant, contractor, subcontractor, or grantee to be utilized in the performance of a grant, contract or subcontract. Where a location or site of construction or other operations contains or includes more than one building, plant, installation, or structure, the entire location or site shall be deemed to be a facility, except where the Director, Office of Federal Activities, EPA, determines that independent facilities are colocated in one geographic area.

(b) *Exempt transactions.* The following are exempt:

(1) Grants, contracts, and subcontracts not exceeding $100,000.

(2) Contracts and subcontracts for indefinite quantities that are not anticipated to exceed $100,000 for any 12 month period.

(3) Grants, contracts, or subcontracts, where the principal purpose is to assist a facility or facilities to comply with any Federal, State, or local law, regulation, limitation, guideline, standard, or other requirement relating to the abatement, control, or prevention of environmental pollution. This exemption does not apply to (i) subcontracts for materials, supplies, or equipment where an existing facility is modified or altered or (ii) grants, contracts, or subcontracts for new construction.

(4) Facilities located outside the United States.

(5) The foregoing exemptions shall not apply to the use of a facility that has been convicted of a violation under section 113(c)(1) of the Clean Air Act, or under section 309(c) of the Federal Water Pollution Control Act. The List of Violating Facilities will specify which facilities have been convicted.

(c) *Grant condition.* No nonexempt project work may be performed at a facility listed by the Director, Office of Federal Activities, EPA, in violation of the requirements of 40 CFR Part 15.

(d) *Contract stipulations.* Each grantee, contractor, and subcontractor must include or cause to be included in every nonexempt subagreement (including contract or subcontract) the criteria and requirements in paragraphs (d) through (f) of this section.

(e) *Notification.* Each applicant, grantee, bidder, contractor, and subcontractor must give prompt notification if at any time prior to or after the award of a nonexempt grant or contract, notification is received from the Director, Office of Federal Activities, indicating that a facility to be utilized in the performance of a nonexempt grant or subagreement has been listed or is under consideration to be listed on the EPA List of Violating Facilities.

(1) An applicant or grantee must notify the project officer.

(2) A bidder, contractor or subcontractor must notify the grantee which will notify the Project Officer.

(f) *Deferral of award.* The Director, Office of Federal Activities, EPA may request that the award of the grant, contract or subcontract be withheld for a period not to exceed 15 working days.

(g) *Compliance.* Each applicant, grantee, bidder, contractor, and subcontractor must comply with all the requirements of Section 114 of the Clean Air Act and section 308 of the Federal Water Pollution Control Act relating to inspection, monitoring, entry, reports, and information as well as all other requirements specified in section 114 and section 308 of the Clean Air Act and Federal Water Pollution Control Act, respectively, and all regulations and guidelines issued thereunder.

(h) *Failure to comply.* In the event any grantee, contractor or subcontractor fails to comply with clean air or water, standards at any facility used in the performance of a nonexempt grant or subagreement, the grantee, contractor, or subcontractor shall undertake the necessary corrective action to bring the facility into compliance. If the grantee, contractor, or subcontractor is unable or unable or unwilling to do so, the grant will be suspended, annulled, or terminated, in whole or in part, unless the best interests of the Government would not thereby be served.

§ 30.420–4 Conflict of interest.

(a) The purpose of this section is to establish policies and procedures for the prevention of conflicts of interest, and the appearance of such conflicts of interest, involving former and current EPA employees in the award and administration of grants. This section does not apply to former EPA employees performing duties as an elected or appointed official or full time employee of a State or local government (excluding State or local institutions of higher education and hospitals).

(b) It is EPA policy that personal or organizational conflict of interest, or the appearance of such conflict of interest, be prevented in the award and administration of EPA grants, including subagreements.

(c) Conflict of interest provisions for EPA employees are published in 40 CFR Part 3. In cases where an employee's action in the review, award, or administration of a grant would create an apparent conflict of interest, the employee shall disqualify himself and refer any necessary action to his superior.

(d) 18 U.S.C. 207 establishes penalties for certain actions on the part of former Federal employees.

(e) It shall be improper for an applicant to receive a grant when the applicant employs a person who served in EPA as a regular employee or as a special employee if either one of the following conditions exist:

(1) If the grant relates to a project in which the former EPA employee participated personally and substantially as an EPA employee, through decision, approval, disapproval, recommendation, and if the former EPA employee (i) was involved in developing or negotiating the application for the prospective grantee; (ii) will be involved in the management or administration of the project, or (iii) has a substantial financial interest (generally, a 20% or greater stock, partnership, or equivalent interest);

(2) If the former EPA employee's official duties involved, within one year prior to the termination of his employment with EPA, decision, approval, disapproval, or recommendation responsibilities concerning the subject matter of the grant or application, and the former EPA employee, within one year following the termination of his employment with EPA, (i) was involved in developing or negotiating the application for the prospective grantee; (ii) will be involved in management or administration of the project; or (iii) has a substantial financial interest (generally a 20% or greater stock, partnership or equivalent interest);

(f) Costs incurred on grants in violation of subparagraph (e) above shall be unallowable costs.

(g) Definitions pertaining to this section may be found in 40 CFR 3.103.

(h) The provisions of this section may be waived only by the Administrator or Deputy Administrator (1) upon a written determination of the General Counsel that the award or the administration of the project would not be likely to involve a violation of 18 U.S.C. 207 or other EPA regulations respecting conflicts of interest, 40 CFR Part 3, and (2) if the Administrator or Deputy Administrator determines that the best interests of the Government would be served by an award of the grant or subagreement or existing administration of the grant in view of the limited extent of the conflict of interest and the outstanding expertise of the former employee.

§ 30.430–5 Employment practices.

A grantee or a party to a subagreement shall not discriminate, directly or indirectly, on the grounds of race, color, religion, sex, age, or national origin in its employment practices under any project, program, or activity receiving assistance from EPA. Each grantee or party to a subagreement shall take affirmative steps to ensure that applicants are employed and employees are treated during employment without regard to race, color, religion, sex, age, or national origin.

§ 30.430–6 Conservation and efficient use of energy.

Grantees must participate in the National Energy Conservation Program by fostering, promoting, and achieving energy conservation in their grant programs. Grantees must utilize to the maximum practical extent the most energy-efficient equipment, materials, and construction and operating procedures available.

§ 30.430 Special conditions.

The grant agreement or any amendment thereto may include special conditions necessary to assure accomplishment of the project or of EPA objectives. However, special conditions inconsistent with the provision and intent of this Subchapter may not be utilized.

§ 30.430 Noncompliance.

In addition to such other remedies as may be provided by law, in the event of noncompliance with any grant condition or specific requirement of this Subchapter, (a) a grant may be terminated or annulled pursuant to § 30.920, (b) project work may be suspended pursuant to § 30.915, (c) payment otherwise due to the grantee of up to 10 percent of the grant amount may be withheld (see § 30.815–3), (d) the grantee may be found nonresponsible or ineligible for future Federal assistance, (e) an injunction may be entered or other equitable relief afforded on behalf of the United States by a court of appropriate jurisdiction, or (f) such other administrative or judicial action may be instituted as may be legally available and appropriate.

Subpart D—Patents, Data, and Copyrights

§ 30.500 General.

This subpart sets forth policy and procedure regarding patents, data, and copyrights under EPA grants or fellowships, and the grant clauses and regulations which define and implement that policy.

§ 30.502 Definitions.

Definitions applicable to this Subpart D, in addition to those in § 30.135, are set forth in Appendixes B and C to this Part.

§ 30.505 Required provision regarding patent and copyright infringement.

(a) The grantee shall report to the Project Officer, promptly and in reasonable written detail, each notice or claim of patent or copyright infringement based on the performance of this grant of which the grantee has knowledge.

(b) In the event of any claim or suit against the Government, on account of any alleged patent or copyright infringement arising out of the performance of this grant or out of the use of any supplies furnished or work or services performed hereunder, the grantee shall furnish to the Government, when requested by the Project Officer, all evidence and information in possession of the grantee pertaining to such suit or claim. Such evidence and information shall be furnished at the expense of the Government except where the grantee has agreed to indemnify the Government.

(c) The grantee shall include in each subagreement (including any tier subagreement) in excess of $10,000 a clause substantially similar to the foregoing provisions.

§ 30.510 Patents and inventions.

It is the policy of EPA to allocate rights to inventions that result from federally supported grants or fellowships in accordance with the guidance and criteria set forth in the Statement of Government Patent Policy by the President of the United States on August 23, 1971 (36 FR 16887), hereinafter referred to as "Statement." Section 1 of the Statement sets forth three major categories (1(a), 1(b), and 1(c)) of contract or grant objectives, and prescribes the manner for allocation of rights to inventions that result from a grant or contract which falls within the particular category.

(a) Under Section 1(a) of the Statement, the United States, at the time of grant award, normally acquires or reserves the right to acquire the principal or exclusive rights to any invention made under the grant or contract. Generally, this is implemented by the United States taking all domestic rights to such invention. However, section 1(a) permits the grantee in exceptional circumstances, to acquire greater rights than a nonexclusive license at the time of grant award where the Administrator certifies that such action will best serve the public interest. Section 1(a) also prescribe circumstances under which the grantee or contractor may acquire such greater rights after an invention is identified.

(b) Under section 1(b) of the Statement, the grantee normally acquires principal rights at the time of grant award.

(c) Section 1(c) applies to grants that are not covered by Section 1(a) or 1(b), and provides that allocation of rights is deferred until after inventions have been identified.

§ 30.515 Required patent provision.

Every EPA grant involving research, developmental, experimental, or demonstration work shall be deemed subject to Section 1(a) of the Statement and shall be subject to the patent provisions set forth in Appendix B to this Part. The requirement is not applicable to fellowships.

§ 30.520 Optional patent provision.

The following clause may be inserted as a special condition in the grant agreement when requested by an applicant or grantee:

Authorization and consent. The Government hereby gives its authorization and consent for all use and manufacture of any invention described in and covered by a patent of the United States in the performance of this grant project or any part hereof or any amendment hereto or any subagreement hereunder (including any lower tier subcontract).

§ 30.525 Data and copyrights.

EPA's data policy is to expedite general utilization or further development of new or improved pollution prevention and abatement technology and procedures developed under EPA grants and fellowships. Therefore, it is most important that the results of EPA sponsored research include data that is sufficient to enable those skilled in the particular area to promptly utilize or further develop such technology and procedures. Availability of adequate data permits accurate assessment of the progress achieved under a grant or fellowship so that EPA priorities can be established. Access to data accumulated by the grantee shall be made available to the Project Officer on request.

§ 30.530 Required data and copyright provision.

Every EPA grant or fellowship shall be subject to the rights in data and copyrights provisions set forth in Appendix C to this Part.

§ 30.540 Deviations.

Any request for deviation from the patent provisions in Appendix B and from the rights in data and copyrights provisions in Appendix C to this Part must be submitted in writing pursuant to Subpart I of this Regulation. No deviation or waiver of patent or data rights shall be granted without the concurrence of the EPA Patent Counsel.

Subpart E—Administration and Performance of Grants

§ 30.600 General.

The grantee bears primary responsibility for the administration and success of the grant project, including any

subagreements made by the grantee for accomplishing grant objectives. Although grantees are encouraged to seek the advice and opinions of EPA on problems that may arise, the giving of such advice shall not shift the responsibility for final decisions to EPA. The primary concern of EPA is that grant funds awarded be used in conformance with applicable Federal requirements to achieve grant and program objectives and to make optimum contributions to the betterment of the environment.

§ 30.605 Access.

The grantee and its contractor and subcontractors must ensure that the Project Officer and any authorized representative of EPA, the Comptroller General of the United States or the Department of Labor, shall at all reasonable times during the period of EPA grant support and until three years following final settlement have access to the facilities, premises and records (as defined in § 30.805) related to the project. In addition, any person designated by the Project Officer shall have access, upon reasonable notice to the grantee by the Project Officer, to visit the facilities and premises related to the project. All subagreements (including any tier subagreement) in excess of $10,000 are subject to the requirements of this section and grantees must include in all such subagreements a clause which will ensure the access required by this section.

§ 30.610 Rebudgeting of funds.

(a) *Notice.* Prompt notification of all rebudgeting in excess of $500 is required pursuant to § 30.900(b). Such notification may be accomplished by submission of a revised copy of the budget forms contained in the grant application or in a letter.

(b) *Prior approval required.* Approval of minor adjustments to an approved budget is not required. Prior written EPA approval is required for any of the following changes under any grant except wastewater treatment construction grants (see Part 35, Subparts C and E of this subchapter):

(1) Where the total approved budget period costs are over $100,000 and the cumulative amount of transfers among direct cost categories or program elements exceeds or is expected to exceed $10,000, or 5 percent of such budget period costs, whichever is greater;

(2) Where the total approved budget period costs are $100,000 or less, and the cumulative amount of transfers among direct cost categories or program elements exceeds or is expected to exceed 5 percent of such budget period costs;

(3) Rebudgeting which involves the transfer of amounts budgeted for indirect costs to absorb increases in direct costs;

(4) Rebudgeting which pertains to the addition of items requiring approval pursuant to Federal Management Circulars 73-8 and 74-4;

(5) Any transfers between construction and nonconstruction work;

(6) Rebudgeting which indicates the need for additional EPA funds.

(c) *Approval.* Where approval of rebudgeting is required, approval or disapproval shall be promptly communicated in writing to the grantee within three (3) weeks from date of receipt of notification.

§ 30.615 Payment.

All payments are made subject to such conditions as are imposed by or pursuant to this Subchapter for allowable project costs. The payment basis and method of payment will be set forth in the grant agreement. Any adjustment to the amount of payment requested by a grantee will be explained in writing.

§ 30.615-1 Method of payment.

(a) Payment for grant programs other than waste treatment construction grants will normally be by advance payments to the grantee. After receipt of the grant agreement, executed by the grantee, an initial advance will be paid to the grantee. The amount of this advance is subject to negotiation with the grantee, but should not exceed 10% of the amount of the award. Any initial advances exceeding this amount must be specified in the grant agreement. As the grantee incurs expenditures under the grant, he will submit a request for payment at least quarterly, but generally no more frequently than monthly.

(b) Payment for waste treatment construction grants will be on a reimbursable basis (see § 30.845 and § 30.945).

(c) Payment for certain grants will be made by letter of credit. Detailed procedures will be provided to the grantee when this method of payment is to be used.

(d) For grants which are paid on an advance basis, payments will be made in a manner that will minimize the time elapsing between the transfer of funds from the United States Treasury and the disbursement of those funds by the grantee. For grants which are paid on a reimbursable basis, payment will be made promptly upon submission by the grantee of the properly completed payment request.

§ 30.615-2 Cash depositories.

(a) Physical segregation of cash depositories for EPA funds is neither required nor encouraged. However, a separate bank account may be used when payments under a letter of credit are made on a "checks-paid" basis in accordance with agreements entered into by the grantee, EPA, and the bank involved.

(b) Grantees are encouraged to use minority-owned banks.

§ 30.615-3 Withholding of funds.

(a) It is EPA policy that full and prompt payment be made to the grantee for eligible project costs. Except as otherwise provided by this Subchapter, the Project Officer may only authorize the withholding of a grant payment where he determines in writing that a grantee has failed to comply with project objectives, grant award conditions, or EPA reporting requirements. Such withholding will be limited to only that amount necessary to assure compliance and will in no event exceed 10% of the grant amount unless otherwise provided by law or this Subchapter.

(b) The Project Officer will withhold payment to the extent of any indebtedness to the United States, unless he determines that collection of the indebtedness will impair accomplishment of the project objectives and that continuation of the project is in the best interest of the United States.

§ 30.615-4 Assignment.

The right to receive payment under a grant may not be assigned, nor may payments due under a grant be similarly encumbered.

§ 30.620 Grant related income.

(a) "Grant related income" means income generated from charges which are directly related to a principal project objective (such as the sale of a solid waste by-product or of copies of reports or studies).

(b) Except as otherwise provided herein a grantee is accountable to EPA for all grant related income. Grantees are required to record the receipt and expenditure of all grant related income. The net amount of such income shall be retained by the grantee and, except as may be otherwise provided in the grant agreement, shall be used to further support the project. To the extent such funds are not used for the project, such amounts shall be deducted from the total project costs for the purpose of determining the net costs on which the EPA share will be based. In no event will EPA be entitled to a credit in excess of the grant amount.

(c) Revenue generated under the governing powers of a State or local government which may have been generated without grant support is not considered grant related income. Such revenues shall include fines or penalties levied under judicial or penal power and used as means to enforce laws; license or permit fees for the purpose of regulation, special assessment to abate nuisances and public irritations, inspection fees, and taxes.

§ 30.620-1 Proceeds from sale of real or personal property.

Income derived from the sale of real or personal property shall be treated in accordance with § 30.810.

§ 30.620-2 Royalties received from copyrights and patents.

Royalties resulting directly from the project and received from copyrights and patents during the project period shall be considered grant related income. After the project period, payment of royalties received annually by the grantee must be made to EPA in a proportion equal to the ratio of the EPA grant to the total project costs unless (a) otherwise specified in the grant agreement, or (b) the EPA share of such royalties is $200 or less annually. Payment of royalties to EPA shall be limited to recovery of the Federal share.

§ 30.625–2 Interest earned on grant funds.

Pursuant to Section 203 of the Intergovernmental Cooperation Act of 1968, 42 U.S.C. 4201, et seq., a State and any agency or instrumentality of a State shall not be held accountable for interest earned on grant funds, pending their disbursement for project purposes. In accordance with a decision of the Comptroller General of the United States (42 Comp. Gen. 289) all other grantees, including units of local government, shall be required to return to EPA interest earned on grant funds paid through advance payments. This requirement is not applicable where grant payments are made on a reimbursable basis. However, if the grantee delays disbursement of grant funds, appropriate credit will be required.

§ 30.625 Grantee publications and publicity.

Pursuant to the Government Printing and Binding Regulations, no grant may be awarded primarily or substantially for the purpose of having material printed for the use of any Federal Department or Agency.

§ 30.625–1 Publicity.

Press releases and other public dissemination of information by the grantee concerning the project work shall acknowledge EPA grant support.

§ 30.625–2 Publications.

(a) *Policy.* EPA encourages and, when specified in the grant agreement, may require publication and distribution of reports of grant activity. The preparation, content, and editing of publications are the responsibilities of the grantee. Except for the final report, review of publications prior to distribution will not normally be made by EPA. Grantees must give notice in writing to the Project Officer at least 10 days prior to publication or other dissemination of project information (other than publicity) unless a shorter period has been approved by the Project Officer. This notice policy is intended to provide the EPA Project Officer with a minimal opportunity to discuss publication format, content, or to coordinate appropriate Agency activities; censorship is not intended nor permitted. This procedure does not apply to seminars, participation on panels, reporting to other research sponsors, or other similar nonpublishing activities.

(b) *Acknowledgement of support.* An acknowledgement of EPA support must be made in connection with the publishing of any material based on, or developed under, a project supported by EPA.

The acknowledgement shall be in the form of a statement substantially as follows:

> This project has been financed (in part/entirely) with Federal funds from the Environmental Protection Agency under grant number _____. The contents do not necessarily reflect the views and policies of the Environmental Protection Agency, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.

(c) *Copies of publications.* Upon publication, a minimum of six copies of the publication shall be furnished to the Project Officer. The Project Officer shall promptly file one copy of all publications resulting from EPA grant support in the official EPA grant file, EPA Headquarters Library, and with the National Technical Information Service, U.S. Department of Commerce.

§ 30.625–3 Signs.

A project identification sign shall be displayed in a prominent location at each publicly visible project site and facility (e.g., mobile laboratories, construction and demolition sites, buildings in which a substantial portion of the work is EPA-funded, etc.). The sign must identify the project and EPA grant support. Grantees may obtain information pertaining to the design and specifications for the signs from their Project Officer. Costs of preparation and erection of the project identification sign are allowable project costs.

§ 30.630 Surveys and questionnaires.

(a) Costs associated with the collection of data or information through surveys or questionnaires by a grantee (or party to subagreement) shall be allowable project costs only if prior written approval of the Project Officer has been obtained for such survey or questionnaire. The Project Officer shall not give such approval without the concurrence of the EPA Headquarters Reports Management Officer to assure compliance with the Federal Reports Act of 1942 (44 U.S.C. 3501–3511).

(b) A grantee (or party to subagreement) collecting information from the public on his own initiative may not represent that the information is being collected by or for EPA without prior agency approval. If reference is to be made to EPA, or the purpose of the grant is for collection of information from the public, prior clearance of plans and report forms must be requested by the grantee through the Project Officer.

§ 30.635 Reports.

§ 30.635–1 Interim progress reports.

(a) It is EPA policy that where progress reports are required such reports shall be submitted to the Project Officer no more frequently than quarterly. Specific reporting requirements are set forth in Parts 35, 40, and 45 of this Subchapter.

(b) Between the required performance reporting dates, the grantee shall promptly notify the Project Officer, in accordance with § 30.900–1, of events which have significant impact upon the project.

§ 30.635–2 Final report.

(a) For all EPA research, demonstration, and training grants, the grantee shall prepare and submit to the Project Officer an acceptable final report prior to the end of the project period. An acceptable report shall document project activities over the entire period of grant support and shall describe the grantee's achievements with respect to stated project purposes and objectives. Where appropriate, the report shall set forth in complete detail all technical aspects of the project, both negative and positive, grantee's findings, conclusions, and results, including, as applicable, an evaluation of the technical effectiveness and economic feasibility of the methods or techniques investigated or demonstrated. Grantees are required to submit a draft final report to the Project Officer at least 90 days prior to the end of the approved project period. The final report shall adequately reflect (e.g., as a footnote or an appendix) EPA comments when required by the Project Officer. Prior to the end of the project period, one reproducible copy suitable for printing and such other copies as may be stipulated in the grant agreement shall be transmitted to the Project Officer.

(b) State or local program grants and grants for construction of waste treatment works do not require a final report.

(c) For all planning grants, the plan itself constitutes the final report.

(d) One copy of all final reports must be filed in the EPA Headquarters Library and the appropriate EPA official grant file.

§ 30.635–3 Financial reports.

(a) For all EPA grants, except for fellowships and wastewater treatment construction grants, the grantee must submit a financial status report to the grants administration office (1) within 90 days after the end of each budget period, and (2) no later than 90 days following the end of the project period or the date of complete termination of grant support, whichever occurs first, or within such additional time as EPA may allow for good cause.

(b) For wastewater treatment construction grants, the grantee is required to submit an Outlay Report and Request for Reimbursement for Construction Programs which will also serve as the financial report.

§ 30.635–4 Invention reports.

As provided in Appendix B of this Part, prompt reporting to the Project Officer of all inventions is required for EPA grants involving experimental, developmental, research or demonstration work. In addition:

(a) An annual invention statement is required with a continuation application.

(b) A final invention report is required to be submitted to the grants administration office within 90 days after completion of the project period.

(c) When a project director or principal investigator changes institutions or ceases to direct a project, an invention statement must be promptly submitted to the grants administration office with a listing of all inventions during his administration of the grant.

§ 30.635–5 Property reports.

(a) For all EPA grants a physical inventory of property shall be taken by the grantee and the results reconciled with the grantee's property records at least once every 2 years. The grantee shall, in

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connection with the inventory, verify the existence, current utilization, and continued need for the property.

(b) For all EPA grants except grants for construction of waste treatment works the grantee must submit at the end of each project period a complete inventory of all property for which the grantee is accountable pursuant to § 30.-810. The submission must indicate the condition of each property item and recommendation for disposition. For the purpose of this Subsection property for which the grantee is accountable means (1) property for which disposition instructions must be requested from EPA, or (2) property for which EPA must be compensated for its share.

§ 30.635–6 Relocation and acquisition reports.

For each project which involves acquisition or displacement subject to the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (see § 30.405–2), grantees must submit by July 31 of each year during the period of project support a report of their acquisition and relocation activities during the 12 month period ending the preceding June 30. Such reports shall be submitted to the Project Officer on forms provided by EPA. Such reports shall be submitted annually even if no acquisition or displacement occurs during a particular 12 month reporting period, until all acquisition and displacement has been completed and final payments (including rental assistance installment payments, if any,) have been made to all claimants and reported to EPA.

§ 30.635–7 Compliance.

Failure to comply with these reporting requirements in a timely manner will result in appropriate action pursuant to § 30.430.

§ 30.640 Utilization of Government procurement sources.

(a) Use of General Services Administration sources of supply and services by grantees is not allowed (see 37 FR 24113, November 14, 1972).

(b) Utilization of Government *excess* property by EPA grantees is not allowed.

§ 30.645 Force account work.

(a) The grantee must obtain specific written prior approval from the Project Officer for the utilization of the "force account" method (i.e., utilization of the grantee's own employees for construction, construction-related activities, or for facility repair or improvement) in lieu of subagreement for any construction activity in excess of $10,000 unless the force account method is stipulated in the grant agreement.

(b) The Project Officer, with the concurrence of the EPA grant approving official, may authorize in writing the use of the force account method in lieu of contracting where he determines that:

(1) The grantee possesses the necessary competence and resources to accomplish the project work; and

(2) Utilization of the force account method will result in a savings in time or cost over the time or cost of performance under a formally advertised contract.

(c) Authorizations to utilize the force account method will identify applicable Federal requirements and the allowability of various cost items.

Subpart F—Project Costs

§ 30.700 Use of funds.

(a) All Federal assistance received under an EPA grant shall be expended by the grantee solely for the reasonable and eligible costs of the approved project in accordance with the terms of the grant agreement and this Subchapter. All project expenditures by the grantee shall be deemed to include the Federal share.

(b) The grantee may not delegate nor transfer his responsibility for the use of grant funds.

(c) No profit or other increment above cost in the nature of profit is allowed.

§ 30.705 Allowable costs.

Allowability of project costs shall be determined by the following:

(a) The costs must be reasonable and within the scope of the project;

(b) The cost is allocable to the extent of benefit properly attributable to the project;

(c) Such costs must be accorded consistent treatment through application of generally accepted accounting principles;

(d) The cost must not be allocable to or included as a cost of any other federally assisted program in any accounting period (either current or prior); and

(e) The cost must be in conformity with any limitations, conditions, or exclusions set forth in the grant agreement or this Subchapter, including appropriate Federal cost principles of this Subpart.

§ 30.710 Federal cost principles.

The following cost principles are applicable to all EPA grants and subagreements of grantees, except as otherwise provided by statute or this Subchapter:

(a) *For state and local governments.* Federal Management Circular 74–4 (34 CFR Part 255) provides principles for determining allowable costs for all grants and subagreements awarded to State and local governments.

(b) *For educational institutions.* (1) Federal Management Circular 73–8 (34 CFR Part 254) provides cost principles for research and development, training, and other educational services under grants and subagreements with educational institutions.

(2) Federal Management Circular 73–8 (34 CFR Part 252) provides principles for coordinating (i) the establishment of indirect cost rates for, and (ii) the auditing of grants and subagreements with educational institutions.

(c) *For other nonprofit institutions.* Department of Health, Education, and Welfare publication OASC–5 (Revised) will be used for grants and subagreements awarded to other nonprofit institutions.

(d) *For all other grants.* Federal Procurement Regulations (41 CFR Ch. 1, Subpart 1–15.2) provide, to the greatest practical extent, comparable principles and procedures for use in cost-reimbursement for all other grants and subagreements.

§ 30.715 Direct and indirect costs.

(a) Project costs will generally be comprised of allowable direct costs and allowable indirect costs.

(b) Each item of cost must be treated consistently as either a direct or an indirect cost.

(c) Any cost allocable to a particular grant or cost objective under the appropriate Federal cost principles may not be shifted to other Federal grant programs to overcome fund deficiencies, avoid restrictions imposed by law or grant agreement, or for other reasons.

§ 30.715–1 Direct costs.

Direct costs are those than can be identified specifically with a particular cost objective. These costs may be charged directly to a project.

§ 30.715–2 Indirect costs.

Indirect costs are those incurred for a common or joint purpose but benefiting more than one cost objective, and not readily identifiable to the cost objectives specifically benefited. The term indirect cost, as used herein, applies to costs of this type originating in the grantee department (or other relevant organizational unit responsible for project performance), as well as those central service support costs incurred by other departments in supplying goods, services, and facilities, to the grantee department when such cost can be assigned to the departmental indirect cost pool as a result of an approved cost allocation plan. The following methods may be used in determining the amount of grantee departmental indirect cost allocable to a grant program:

(a) *Negotiated indirect cost rates.* Federal Management Circulars 74–4 and 73–8 provide for the assignment of cognizance to single Federal Departments and agencies for conducting indirect cost negotiations and audits at educational institutions and State and local governments. The rate(s) negotiated by the cognizant Federal agency are accepted by all Federal agencies. In addition, organizations not covered by the above Circulars may have rates established by negotiation with EPA or another Federal agency.

(1) EPA shall use the latest available negotiated rate for computing indirect costs for the applicant. Except for grants to profit-making institutions, the indirect cost rates used by EPA in calculation of grant amounts will be predetermined fixed rates for EPA grant award purposes. As such they will not be effective retroactively, nor subject to adjustment either during or after the budget period. Grants to profit-making organizations will utilize the latest available rate, based on actual past cost experience, as a maximum provisional rate subject to downward adjustment only.

(2) A special indirect cost rate may be applied to a project (or portion of a project) to be carried out at an off-

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campus or off-site location. A special indirect cost rate may be applied for a large nonrecurring project when such project costs would distort the normal direct cost base used in computing the overhead rate.

(b) *Negotiated lump sum for overhead.* A negotiated fixed amount in lieu of an indirect rate may be appropriate under circumstances where the benefits derived from a grantee department's indirect services cannot be readily determined. When this method is used, a determination should be made that the amount negotiated will be approximately the same as the indirect cost that may be incurred. Such amounts negotiated in lieu of an indirect rate will be treated as an offset to total indirect expenses of the grantee department before allocation to remaining activities. The base on which such remaining expenses are allocated should be appropriately adjusted. This method may not be used for grants to profit-making institutions.

§ 30.720 Cost sharing.

(a) Except as may be otherwise provided by law or this Subchapter, EPA grantees must share project costs except in cases where such grantee institutions have no source of income other than Federal grants and contracts. If there is no statutory matching requirement, a grantee must contribute not less than 5% of allowable project costs within each budget period. Such contributions may be reflected in either direct or indirect costs; in-kind contributions are permitted.

(b) Cost sharing must be negotiated prior to award of a grant and must be set forth in the grant agreement as a percentage of the total allowable project costs for each budget period. Criteria to be used in the negotiation concerning the extent of cost sharing may include the benefits the grantee will derive from the project; the financial risk the grantee will bear; and the resources the grantee has available.

(c) Contributions to cost sharing are allowable only if they are verifiable from the grantee's records; not included as cost sharing or matching contributions for any other Federally-assisted program; otherwise properly allocable to the project; and constitute allowable project costs.

(d) Institutional cost sharing agreements are not permitted.

§ 30.725 Cost and price analysis.

§ 30.725-1 Policy.

The reasonableness of the price or cost of each grant application or negotiated subagreement proposal must be considered. The method and degree of analysis shall depend on the circumstances of the particular grant or subagreement action.

§ 30.725-2 Price analysis.

A price analysis is the process of examining and evaluating a prospective price by comparison without evaluation of the composition of separate cost elements and proposed profit.

§ 30.725-3 Cost analysis.

A cost analysis is the process of examining, verifying and evaluating cost data and the judgmental factors applied in projecting from the basic cost data to a reasonable estimated price that will be representative of the total cost of performance of the grant or negotiated subagreement.

§ 30.725-4 Requirements.

(a) A formal cost analysis shall be made and a summary of findings prepared for all research, demonstration, planning and training grant applications deemed relevant and requesting EPA funds in excess of $100,000 for the budget period.

(b) A formal cost analysis shall be made and a summary of findings prepared for all grant applications from profit making organizations deemed relevant.

(c) Any other grant application or subagreement may receive a cost analysis where EPA's program office or grants administration office considers it appropriate.

(d) Price analysis techniques may be used instead of or to supplement cost analysis wherever appropriate.

Subpart G—Grantee Accountability

§ 30.800 Financial management.

The grantee is responsible for maintaining a financial management system which shall adequately provide for:

(a) Accurate, current, and complete disclosure of the financial results of each grant program in accordance with EPA reporting requirements. Accounting for project funds will be in accordance with generally accepted accounting principles and practices, consistently applied, regardless of the source of funds.

(b) Records which identify adequately the source and application of funds for grant-supported activities. These records shall contain information pertaining to grant awards and authorizations, obligations, unobligated balances, assets, liabilities, outlays, and income.

(c) Effective control over and accountability for all project funds, property, and other assets. Grantees shall adequately safeguard all such assets and shall assure that they are used solely for authorized projects.

(d) Comparison of actual with budgeted amounts for each grant. If appropriate and required by the grant agreement, relation of financial information with performance or productivity data, including the production of unit cost information.

(e) Procedures to minimize the time elapsing between the transfer of funds from the U.S. Treasury and the disbursement by the grantee, whenever funds are advanced by the Federal Government. When advances are made by a letter-of-credit method, the grantee shall make drawdowns from the U.S. Treasury through his commercial bank as close as possible to the time of making the disbursements.

(f) Procedures for determining the allowability and allocability of costs in accordance with the provisions of § 30.705.

(g) Accounting records which are supported by source documentation.

(h) Audits to be made by the grantee or at his direction to determine, at a minimum, the fiscal integrity of financial transactions and reports, and the compliance with the terms of the grant agreement. The grantee will schedule such audits with reasonable frequency, usually annually, but not less frequently than once every 2 years, considering the nature, size and complexity of the activity.

(i) A systematic method to assure timely and appropriate resolution of audit findings and recommendations.

§ 30.805 Records.

The following record and audit policies are applicable to all EPA grants and to all subagreements in excess of $10,000 under grants.

(a) The grantee shall maintain books, records, documents, and other evidence and accounting procedures and practices, sufficient to reflect properly (1) the amount, receipt, and disposition by the grantee of all assistance received for the project, including both Federal assistance and any matching share or cost sharing, and (2) the total costs of the project, including all direct and indirect costs of whatever nature incurred for the performance of the project for which the EPA grant has been awarded. In addition, contractors of grantees, including contractors for professional services, shall also maintain books, documents, papers, and records which are pertinent to a specific EPA grant award. The foregoing constitute "records" for the purposes of this subpart.

(b) The grantee's records and the records of his contractors, including professional services contracts, shall be subject at all reasonable times to inspection, copying, and audit by EPA, the Comptroller General of the United States, the Department of Labor, or any authorized representative.

(c) The grantee and contractors of grantees shall preserve and make their records available to EPA, the Comptroller General of the United States, Department of Labor, or any authorized representative (1) until expiration of 3 years from the date of final settlement, or, for grants which are awarded annually, from the date of the submission of the annual financial status report, and (2) for such longer period, if any, as is required by applicable statute or lawful requirement, or by paragraph (c)(2) (i) or (ii) of this section.

(i) If a grant is terminated completely or partially, the records relating to the work terminated shall be preserved and made available for a period of 3 years from the date of any resulting final termination settlement.

(j) Records which relate to (a) appeals under the Subpart J—Disputes, of this Part, (b) litigation on the settlement of claims arising out of the performance of the project for which a grant was awarded, or (c) costs and expenses of the project to which exception has been taken by EPA or any of its duly authorized representatives, shall be retained until any appeals, litigation, claims or exceptions have been finally resolved.

§ 30.810 Property.

Except as otherwise prescribed by statute or the grant agreement, §§ 30.810–1 through 30.810–9 prescribe policies and procedures governing management and ownership of real property and tangible personal property whose acquisition cost is borne in whole or in part by EPA as a direct cost under a grant. Grantees are authorized to use their own property management standards and procedures as long as the minimum standards of these sections are included.

§ 30.810–1 Definitions.

The following definitions apply for the purpose of §§ 30.180–1 through 30.810–9.

(a) *Acquisition cost of purchased nonexpendable personal property.* The net invoice price of the property including the cost of any attachments, accessories, or auxiliary apparatus necessary to make the property usable for the purpose for which it was acquired. Other charges such as for taxes, duty, protective in-transit insurance, freight, or installation, shall be included in or excluded from acquisition cost in accordance with the grantee's regular accounting practices.

(b) *Real property.* Except as otherwise defined by State law, land or any interest therein including land improvements, structures, fixtures and appurtenances thereto, but excluding movable machinery and equipment.

(c) *Personal property.* Except as otherwise defined by State law, tangible property of any kind except real property.

(d) *Nonexpendable personal property.* Tangible personal property having a useful life of more than 1 year and an acquisition cost of $300 or more per unit. A grantee may use its own definition of nonexpendable personal property provided that such definition would at least include all nonexpendable personal property as defined herein.

(e) *Expendable personal property.* Expendable personal property refers to all tangible personal property (including consumable materials) other than nonexpendable personal property.

§ 30.810–2 Purchase of property.

Expenditures of project funds for property may be allowed as direct costs only to the extent that such property is necessary for the approved project during the project period. Purchase orders for purchase of personal property are subagreements as defined in this Part.

§ 30.810–3 Property management standards.

The grantee's property management standards for nonexpendable personal property shall include as a minimum the following elements:

(a) Accurately maintained property records which include:

(1) A description of the property,

(2) Manufacturer's serial number, model number, or other identification number,

(3) Source of the property, including contract or grant number,

(4) Whether title vests in the grantee or the Federal Government,

(5) Acquisition date (or date received, if the property was furnished by the Federal Government) and cost,

(6) Location, use, and condition of the property,

(7) Ultimate disposition data, including sales price or the method used to determine current fair market value where a grantee compensates EPA for its share.

(b) A physical inventory of property that is taken, and the results reconciled with the property records, at least once every 2 years. The grantee shall, in connection with the inventory, verify the existence, current utilization, and continued need for the property.

(c) A control system which insures adequate safeguards to prevent loss, damage, or theft to the property. Any loss, damage, or theft of nonexpendable property shall be investigated and fully documented. If the property was owned by the Federal Government, the grantee shall promptly notify the Project Officer.

(d) Adequate maintenance procedures which insure that the property is maintained in good condition and that instruments used for precision measurement are periodically calibrated.

(e) Proper sales procedures for unneeded property which would provide for competition to the extent practicable and result in the highest possible return.

(f) Identification of property owned by the Federal Government to indicate Federal ownership.

§ 30.810–4 Title to property.

Except as may be otherwise provided by law or in this Subchapter or in the grant agreement, title to all real or personal property whose acquisition cost is a direct cost under a grant project shall vest in the grantee, subject to such interest in the United States as may be provided for in this Subchapter or in the grant agreement. For all property with an acquisition cost of $1,000, the grantee shall assure that the interest of the United States in the property is adequately reflected and protected in compliance with all recordation or registration requirements of the Uniform Commercial Code or other applicable local laws.

§ 30.810–5 Real property.

(a) The grantee shall use the real property for the purpose of the original grant.

(b) The grantee shall obtain approval from EPA for the use of the real property in other projects when the grantee determines that the property is no longer needed for the original grant purposes. Use in other projects shall be limited to those under other Federal grant programs, or programs that have purposes consistent with those authorized for support by EPA.

(c) When the real property is no longer needed as provided in paragraphs (a) and (b) of this section, the grantee shall request disposition instructions from EPA.

(d) EPA shall observe the following rules in the disposition instructions for real property:

(1) In the case of real property furnished by EPA or purchased wholly with EPA funds, the grantee shall return all such real property to the control of EPA.

(2) In the case of real property purchased in part with EPA funds, the grantee, at the direction of the Project Officer, may:

(i) Retain title with Federal restrictions removed if it compensates the Federal Government an amount computed by applying the Federal percentage of participation in the net cost of the project to the current fair market value of the property, or

(ii) Sell the property under guidelines provided by EPA and pay the Federal Government an amount computed by applying the Federal percentage of participation in the net cost of the project to the proceeds from sale (after deducting actual and reasonable selling and fix-up expenses, if any, from the sales proceeds), or

(iii) Transfer title of the property to the Federal Government with its consent provided that in such cases the grantee shall be entitled to compensation computed by applying the grantee's percentage of participation in the net cost of the project to the current fair market value of the property.

§ 30.810–6 Federally-owned nonexpendable personal property.

(a) Title to federally owned property (property to which the Federal Government retains title) remains vested by law in the Federal Government.

(b) Upon termination of the grant or need for the property, such property shall be reported to EPA for further agency utilization or, if appropriate, for reporting to the General Services Administration for other Federal agency utilization. Appropriate disposition instructions will be issued to the grantee after completion of EPA review. Under no circumstances shall grantees sell Government-owned property.

§ 30.810–7 Nonexpendable personal property acquired with Federal funds.

(a) *Use.* When nonexpendable personal property is acquired by a grantee as a direct cost under a grant, the grantee shall retain the property in the grant program for its useful life or as long as there is a need for the property to accomplish the purpose of the grant program, whichever is shorter. Except as

may be provided in the grant agreement, when there is no longer a need for such property for the grant program, the grantee may utilize the property in the following order of priority:

(1) Other grant activities sponsored by EPA.

(2) Grant activities sponsored by other Federal agencies.

(b) *Disposition.* When the grantee no longer has need for the property in any of its Federal grant programs, property disposition will be as follows:

(1) For all grantees except profit-making organizations, nonexpendable property with an acquisition cost of less than $1,000 may be used for a grantee's own activities without reimbursement to the Federal Government or the grantee may sell the property and retain the proceeds. Profit-making organizations may retain the property provided that EPA is compensated for its proportionate share of the property. Compensation shall be computed by applying the percentage of EPA participation in the cost of the project to the fair market value of the property.

(2) Nonexpendable property with an acquisition cost of $1,000 or more may be retained by the grantee provided that EPA is compensated for its proportionate share of the current market value of the property.

(3) When a grantee does not wish to retain property with an acquisition cost of $1,000 or more, as provided in paragraph (b)(2) of this section, or when a profit-making organization does not wish to retain property as provided in (b)(1) of this section, the grantee shall request disposition instructions from EPA. EPA shall determine whether the property can be used to meet other Agency requirements; if not, EPA shall report the availability of the property to the General Services Administration to determine whether a requirement for the property exists in other Federal agencies.

(4) EPA shall observe the following rules in the disposition instructions for nonexpendable personal property with an acquisition cost of $1,000 or more.

(i) EPA may waive title to the property with all Federal restrictions and conditions removed, if the grantee is a nonprofit institution of higher education or nonprofit research organization, in accordance with the provisions of the Grants Act (Pub. L. 85-934).

(ii) EPA may instruct the grantee to ship the property elsewhere. Compensation will be made to the grantee by the benefiting Federal agency. Compensation shall be computed by applying the percentage of the grantee's participation in the grant program to the current fair market value of the property, plus any shipping or interim storage costs incurred.

(iii) EPA may instruct the grantee to otherwise dispose of the property. Compensation will be made to the grantee by EPA. Compensation shall be computed by applying the percentage of the grantee's participation in the grant program to the current fair market value of the property, plus any costs incurred in its disposition.

(iv) EPA shall issue disposition instructions to the grantee within 120 days. If disposition instructions are not received within 120 days after reporting, the grantee shall sell the property and reimburse EPA an amount which is computed by applying the percentage of Federal participation in the grant program to the sales proceeds, less $100 or 10 percent of the proceeds, whichever is greater, for selling and handling expenses.

§ 30.810-8 Expendable personal property acquired with grant funds.

If there is a residual inventory of expendable personal property exceeding $500 in total fair market value at the conclusion of the project period, and the property is not currently needed for any other federally-sponsored project or program, the grantee shall retain the property for use on nonfederally-sponsored activities, or sell it, but must in either case, compensate EPA for its share. The amount of such compensation shall be computed by applying the percentage of Federal participation in the net cost of the project to the current fair market value of the property.

§ 30.810-9 Property reports.

Property reports must be furnished in accordance with § 30.635-5.

§ 30.815 Final settlement.

Upon submission of the final financial status report pursuant to § 30.635-3, there shall be payable to the United States as final settlement the total sum of (a) any unexpended grant funds, (b) any amounts payable for equipment, materials, or supplies, pursuant to § 30.-810, (c) other grant related income, pursuant to § 30.620, and (d) an amount equivalent to that portion of project costs which are unallowable, in proportion to the EPA share and to the extent grant payments therefor have been made. Any settlement made prior to the final audit is subject to adjustment based on the audit. Final settlement will not be considered complete until all audit findings, appeals, litigations, or claims have been resolved. Any debt owed by the grantee to the United States, and not paid at the time of final settlement shall be recovered from the grantee or its successors by setoff or other action as provided by law.

§ 30.820 Audit.

(a) Preaward or interim audits may be performed on grant applications and awards.

(b) A final audit shall be conducted after the submission of or the due date of the final financial status report pursuant to § 30.635-3. The time of the final audit will be determined by EPA and may be prior or subsequent to final settlement (see § 30.815). Any settlement made prior to the final audit is subject to adjustment based on the audit. Grantees and subcontractors of grantees shall preserve and make their records available pursuant to § 30.805.

Subpart H—Modification, Suspension and Termination

§ 30.900 Project changes and grant modifications.

(a) A grant modification means any written alteration in the grant amount, grant terms or conditions, budget or project period, or other administrative, technical, or financial agreement whether accomplished by unilateral action of the grantee or the Government in accordance with a provision of the grant agreement or this Subchapter, or by mutual action of the parties to the grant.

(b) The grantee must promptly notify the Project Officer in writing (certified mail, return receipt requested) of events or proposed changes which may require a grant modification, such as:

(1) Rebudgeting (see § 30.818);

(2) Changes in approved technical plans or specifications for the project;

(3) Changes which may affect the approved scope or objective of a project;

(4) Significant changed conditions at the project site;

(5) Acceleration or deceleration in the time for performance of the project, or any major phase thereof;

(6) Changes which may increase or substantially decrease the total cost of a project (see § 30.900-1); or

(7) Changes in the Project Director or other key personnel identified in the grant agreement or a reduction in time or effort devoted to the project on the part of such personnel.

(c) Grant modifications are of four general types: formal grant amendments, administrative grant changes, transfer of grants and change of name agreements, and grantee project changes (see § 30.900-1 through § 30.900-4).

(d) A copy of each document pertaining to grant modifications or requests therefor (any administrative change, approved or disapproved project changes and any letter of approval or disapproval, grant amendment, or agreement for transfer of a grant or change of name agreement) shall be retained in the official EPA grant file.

(e) The document which effects a grant modification shall establish the effective date of the action. If no such date is specified, then the date of execution of the document shall be the effective date for the action.

§ 30.900-1 Formal grant amendments.

(a) Project changes which substantially alter the cost or time of performance of the project or any major phase thereof, which substantially alter the objective or scope of the project, or which substantially reduce the time or effort devoted to the project on the part of key personnel will require a formal grant amendment to increase or decrease the dollar amount, the term, or other principal provisions of a grant. This should not be constructed as to apply to estimated payment schedules under grants for construction of treatment works.

(b) No formal grant amendment may be entered into unless the Project Officer has received timely notification of the proposed project change. However, if the

Project Officer determines that circumstances justify such action, he may receive and act upon any request for formal grant amendment submitted (1) prior to final payment under grants for which payments of the Federal share have been made by reimbursement and (2) prior to grant closeout of other grants. Formal grant amendments may be executed subsequently only with respect to matters which are the subject of final audit or dispute appeals.

(c) A formal grant amendment shall be effected only by a written amendment to the grant agreement. Such amendments shall be bilaterally executed by the EPA grant award official and the authorized representative of the grantee. However, in cases where this Subchapter or the grant agreement give the government a unilateral right (for example, the suspension or termination rights set forth in §§ 30.915 and 30.920, the withholding of grant payment pursuant to § 30.815–3, or the reduction of the grant amount pursuant to § 35.559–3 of this Subchapter), any such right may be exercised by the appropriate EPA official (generally, the grant award official) in accordance with this Subchapter.

(d) The grants administration office shall prepare all formal grant amendments after approval of the modification by the Project Officer or Grant Approving Official, as appropriate

§ 30.900–2 Administrative grant changes.

These changes, such as a change in the designation of the Project Officer, or of the office to which a report is to be transmitted, or a change in the payment schedule for grants for construction of treatment works, constitute changes to the grant agreement (but not necessarily to the project work) and do not affect the substantive rights of the Government or the grantee. Such changes may be issued unilaterally by the EPA grant award official or Project Officer and do not require the concurrence of the grantee. Such changes must be in writing and will generally be effected by a letter (certified mail, return receipt requested) to the grantee.

§ 30.900–3 Transfer of grants; change of name agreements.

Transfers of grants and change of name agreements require the prior written approval of the grant award official. The grant award official may not approve any transfer of a grant without the concurrence of the grant approving official and consultation with the Regional Counsel or the Assistant General Counsel, Grants, nor may he approve any change of name agreement without consultation with the Regional Counsel or the Assistant General Counsel, Grants. The grants administration office shall prepare the necessary documents upon receipt from the Project Officer of appropriate information and documentation submitted by the grantee.

§ 30.900–4 Grantee project changes.

Project changes not covered by § 30.900–1 through § 30.900–3 shall be considered grantee project changes not requiring formal grant amendments.

(a) Rebudgeting changes may require prior written approval pursuant to § 30.610.

(b) All other grantee project changes shall be considered approved unless the Project Officer notifies the grantee of disapproval, with adequate explanation of the reason therefor, or the necessity for the execution of a grant amendment, in writing (certified mail, return receipt requested) not later than 3 weeks after receipt of notice pursuant to § 30.900(b). No action taken pursuant to this section shall commit or obligate the United States to any increase in the amount of a grant or payments thereunder, but shall not preclude consideration of a request for a formal grant amendment pursuant to § 30.900–1.

§ 30.915 Suspension of grants—stop work orders.

Work on a project or on a portion or phase of a project for which a grant has been awarded may be ordered stopped by the grant award official, except for grants to educational institutions or nonprofit research organizations.

§ 30.915–1 Use of stop-work orders.

Work stoppage may be required for good cause such as default by the grantee, failure to comply with the terms and conditions of the grant, realignment of programs, lack of adequate funding, or advancements in the state of the art. Inasmuch as stop-work orders may result in increased costs to the Government by reason of standby costs, such orders will be issued only after concurrence by the grant approving official and the Regional Counsel or the Assistant General Counsel, Grants. Generally, use of a stop-work order will be limited to those situations where it is advisable to suspend work on the project or a portion or phase of the project for important program or agency considerations and a supplemental agreement providing for such suspension is not feasible. Although a stop-work order may be used pending a decision to terminate by mutual agreement or for other cause, it will not be used in lieu of the issuance of a termination notice after a decision to terminate has been made.

§ 30.915–2 Contents of stop-work orders.

Prior to issuance, stop-work orders should be discussed with the grantee and should be appropriately modified, in the light of such discussions. Stop-work orders should include (a) a clear description of the work to be suspended, (b) instructions as to the issuance of further orders by the grantee for materials or services, (c) guidance as to action to be taken on subagreements, and (d) other suggestions to the grantee for minimizing costs.

§ 30.915–3 Issuance of stop-work order.

After appropriate concurrence in the proposed action has been obtained, the EPA grant award official may, by written order to the grantee (certified mail, return receipt requested), require the grantee to stop all, or any part of the project work for a period of not more than forty-five (45) days after the order is delivered to the grantee, and for any further period to which the parties may agree. The grants administration office shall prepare the stop-work order. Any such order shall be specifically identified as a stop-work order issued pursuant to this Section.

§ 30.915–4 Effect of stop-work order.

(a) Upon receipt of a stop-work order, the grantee shall forthwith comply with its terms and take all reasonable steps to minimize the incurrence of costs allocable to the work covered by the order during the period of work stoppage. Within the suspension period or within any extension of that period to which the parties shall have agreed, EPA shall either:

(1) Cancel the stop-work order, in full or in part,

(2) Terminate the work covered by such order as provided in § 30.920, or

(3) Authorize resumption of work.

(b) If a stop-work order is canceled or the period of the order or any extension thereof expires, the grantee shall promptly resume the previously suspended work. An equitable adjustment shall be made in the grant period, the project period, or grant amount, or all of these, and the grant instrument shall be amended accordingly, if:

(1) The stop-work order results in an increase in the time required for, or an increase in the grantee's cost properly allocable to the performance of any part of the project, and

(2) The grantee asserts a written claim for such adjustment within sixty (60) days after the end of the period of work stoppage. However, if the Project Officer determines the circumstances justify such action, he may receive and act upon any such claim asserted in accordance with § 30.900–1(b).

(c) If a stop-work order is not canceled and the grant-related project work covered by such order is within the scope of a subsequently-issued termination order, the reasonable costs resulting from the stop-work order shall be allowed in arriving at the termination settlement.

(d) Costs incurred by the grantee or its contractors, subcontractors, or representatives, after a stop-work order is delivered, or within any extension of the stop-work period to which the parties shall have agreed, with respect to the project work suspended by such order or agreement which are not authorized by this Section or specifically authorized in writing by the grant award official, shall not be allowable costs.

§ 30.915–5 Disputes provision.

Failure to agree upon the amount of an equitable adjustment due under a stop-work order shall constitute a dispute (see Subpart J of this Part).

§ 30.920 Termination of grants.

A grant may be terminated in whole or in part by the grant award official upon the recommendation of the Project Officer and after concurrence of the grant approving official in the proposed

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action and consultation with the Regional Counsel or the Assistant General Counsel, Grants.

§ 30.920–1 Termination agreement.

The parties may enter into an agreement to terminate the grant at any time pursuant to terms which are consistent with this Subchapter. The agreement shall establish the effective date of termination of the project and grant, the basis for settlement of grant termination costs, and the amount and date of payment of any sums due either party. The grants administration office will prepare the termination document.

§ 30.920–2 Project termination by grantee.

A grantee may not unilaterally terminate the project work for which a grant has been awarded, except for good cause. The grantee must promptly give written notice to the Project Officer of any complete or partial termination of the project work by the grantee. If the Project Officer determines, with the concurrence of the EPA grant approving official, that there is good cause for the termination of all or any portion of a project for which the grant has been awarded, the EPA grant award official may enter into a termination agreement or unilaterally terminate the grant pursuant to § 30.920–3, effective with the date of cessation of the project work by the grantee. If the Project Officer, with the concurrence of the EPA grant approving official, determines that a grantee has ceased work on the project without good cause, the grant award official may unilaterally terminate the grant pursuant to § 30.920–3 or annul the grant pursuant to § 30.920–5.

§ 30.920–3 Grant termination by EPA.

(a) *Notice of intent to terminate.* After concurrence in the issuance of a termination notice has been obtained from the EPA grant approving official and the Regional Counsel or the Assistant General Counsel, Grants, the grant award official shall give not less than ten (10) days written notice to the grantee (certified mail, return receipt requested) of intent to terminate a grant in whole or in part.

(b) *Termination action.* The grantee must be afforded an opportunity for consultation prior to any termination. After the EPA grant approving official and the Regional Council or the Assistant General Counsel, Grants, have been informed of any expressed views of the grantee and concur in the proposed termination, the grant award official may, in writing (certified mail, return receipt requested), terminate the grant in whole or in part.

(c) *Basis for termination.* A grant may be terminated by EPA for good cause subject to negotiation and payment of appropriate termination settlement costs.

§ 30.920–4 Effect of termination.

Upon termination, the grantee must refund or credit to the United States that portion of grant funds paid or owed to the grantee and allocable to the terminated project work, except such portion thereof as may be required to meet commitments which had become firm prior to the effective date of termination and are otherwise allowable. The grantee shall not make any new commitments without EPA approval. The grantee shall reduce the amount of outstanding commitments insofar as possible and report to the Project Officer the uncommitted balance of funds awarded under the grant. The allowability of termination costs will be determined in conformance with applicable Federal cost principles listed in § 30.710.

§ 30.920–5 Annulment of grant.

(a) The grant award official may annul the grant if the Project Officer determines, with the concurrence of the appropriate Assistant Administrator or Regional Administrator and the Regional Counsel or Assistant General Counsel, Grants, that:

(1) There has been no substantial performance of the project work without good cause;

(2) There is convincing evidence the grant was obtained by fraud; or

(3) There is convincing evidence of gross abuse or corrupt practices in the administration of the project.

(b) In addition to such remedies as may be available to the United States under Federal, State, or local law, all EPA grant funds previously paid to the grantee shall be returned or credited to the United States, and no further payments shall be made to the grantee.

§ 30.920–6 Dispute provision.

The grantee may appeal a termination or annulment action taken pursuant to this section (see Subpart J of this part).

Subpart I—Deviations

§ 30.1000 General.

The Director, Grants Administration Division, is authorized to approve deviations from substatutory requirements of this Subchapter or grant related requirements of this Chapter when he determines that such deviations are essential to effect necessary grant actions or EPA objectives where special circumstances make such deviations in the best interest of the Government.

§ 30.1000–1 Applicability.

A deviation shall be considered to be any of the following:

(a) when limitations are imposed by this Subchapter or by grant related requirements of this Chapter upon the use of a procedure, form, grant clause, or any other grant action, the imposition of lesser or greater limitations,

(b) when a policy, procedure, method or practice of administering or conducting grant actions is prescribed by this Subchapter or by grant related requirements of this Chapter, any policy, procedure, method, or practice inconsistent therewith,

(c) when a prescribed grant clause is set forth verbatim in this Subchapter, use of a clause covering the same subject matter which varies from, or has the effect of altering, the prescribed clause or changing its application,

(d) when a limitation on award or grant condition is set forth in this Subchapter but not for use verbatim, use of a special condition covering the same subject matter which is inconsistent with the intent, principle, or substance of the limitation or condition, or related coverage of the subject matter,

(e) omission of any mandatory grant provision,

(f) when an EPA or other form is prescribed by this Subchapter, use of any other form for the same purpose, or

(g) alteration of an EPA or other form prescribed in this Subchapter.

§ 30.1000–2 Request for deviation.

A request for a deviation shall be submitted in writing to the Director, Grants Administration Division, as far in advance as the exigencies of the situation will permit. Each request for a deviation shall contain as a minimum:

(a) the name of the applicant or the grantee and the grant identification number of the application or grant affected, and the dollar value,

(b) identification of the section of this Subchapter or the grant related requirements of this Chapter from which a deviation is sought,

(c) an adequate description of the deviation and the circumstances in which it will be used, including any pertinent background information which will contribute to a fuller understanding of the deviation sought, and

(d) a statement as to whether the same or a similar deviation has been requested previously, and if so, circumstances of the previous request.

§ 30.1000–3 Approval of deviation.

Deviations may be approved only by the Director of the Grants Administration Division or his duly authorized representative. A copy of each such written approval shall be retained in the official EPA grant file. Concurrence in the approval of the deviation by the appropriate Assistant Administrator(s) is required prior to its effectiveness, where the deviation would involve more than a unique, special situation, e.g., will affect grantees as a class.

Subpart J—Disputes

§ 30.1100 Decision of the Project Officer.

Except as otherwise provided by law, or this Subchapter, any dispute arising under a grant shall be decided by the Grant Approving Official or Project Officer, who, after concurrence by appropriate EPA officials, shall reduce his decision to writing and mail (certified mail, return receipt requested) or otherwise furnish a copy thereof to the grantee.

§ 30.1105 Grantee appeal.

A decision of the Project Officer made pursuant to § 30.1100 shall be final and conclusive unless, within thirty (30) days from the date of receipt of such copy, the grantee mails (certified mail, return receipt requested) or otherwise delivers

to EPA (generally, to the Project Officer) a written appeal addressed to the Administrator.

§ 30.1115 Rights of the grantee and the Government.

In connection with an appeal proceeding pursuant to § 30.1110 the grantee shall be afforded an opportunity to be heard, to be represented by legal counsel, to offer evidence and testimony in support of any appeal, and to cross-examine Government witnesses and to examine documentation or exhibits offered in evidence by the Government or admitted to the appeal record (subject to the Government's right to offer its own evidence and testimony, to cross-examine the appellant's witnesses, and to examine documentation or exhibits offered in evidence by the appellant or admitted to the appeal record). The appeal shall be determined solely upon the appeal record.

§ 30.1120 Decision of the Administrator.

The decision of the Administrator or his duly authorized representative for the determination of such appeal shall be final and conclusive unless determined by a court of competent jurisdiction to have been fraudulent or capricious, or arbitrary, or so grossly erroneous as to imply bad faith, or not supported by substantial evidence.

§ 30.1125 Questions of law.

Any question of law may be considered in connection with decisions provided for by this Subpart. Nothing in the grant agreement or related regulations, however, shall be construed as making final the decision of any administrative official, representative, or board, on a question of law.

§ 30.1150 Appeal procedures [Reserved].

APPENDIX B—PATENTS AND INVENTIONS

A. *Definitions.* (1) "Background Patent" means a foreign or domestic patent (regardless of its date of issue relative to the date of the EPA grant):

(i) Which the grantee, but not the Government, has the right to license to others, and

(ii) Infringement of which cannot be avoided upon the practice of a Subject Invention or Specified Work Object.

(2) "Commercial Item" means—

(i) Any machine, manufacture, or composition of matter which, at the time of a request for a license pursuant to Part D of this Appendix, has been sold, offered for sale or otherwise made available commercially to the public in the regular course of business, at terms reasonable in the circumstances, and

(ii) Any process which, at the time of a request for a license, is in commercial use, or is offered for commercial use, so the results of the process or the products produced thereby are or will be accessible to the public at terms reasonable in the circumstances.

(3) "Specified Work Object" means the specific process, method, machine, manufacture or composition of matter (including relatively minor modifications thereof) which is the subject of the experimental, developmental, research or demonstration work performed under this grant.

(4) "Grantee" is the party which has accepted this grant award and includes entities controlled by the grantee. The term "controlled" means the direct or indirect ownership of more than 50 percent of outstanding stock entitled to vote for the election of directors, or a directing influence over such stock; provided, however, that foreign entities not wholly owned by the grantee shall not be considered as "controlled."

(5) "Subagreement" includes subagreements at any tier under this grant.

(6) "Domestic" and "foreign" refer, respectively, (i) to the United States of America, including its territories and possessions, Puerto Rico and the District of Columbia and (ii) to countries other than the United States of America.

(7) "Government" means the Federal Government of the United States of America.

(8) "Subject Invention" means any invention, discovery, improvement or development (whether or not patentable) made in the course of or under this grant or any subagreement (at any tier) thereunder.

(9) "Made," when used in connection with any invention, means the conception or first actual reduction to practice of such invention.

(10) To "practice an invention or patent" means the right of a licensee on his own behalf to make, have made, use or have used, sell or have sold, or otherwise dispose of according to law, any machine, design, manufacture, or composition of matter physically embodying the invention, or to use or have used the process or method comprising the invention.

(11) The phrase "to bring to the point of practical application" means to manufacture in the case of composition or product, to use in the case of a process, or to operate in the case of a machine and under such conditions as to establish that the invention is being worked and that its benefits are reasonably accessible to the public.

(12) "Statement" means the President's Patent Policy Statement of August 23, 1971, 36 F.R. 16889, August 26, 1971.

B. *Domestic patent rights in Subject Inventions.* (1) The grantee agrees that he will promptly disclose to the Project Officer in writing each Subject Invention in a manner sufficiently complete as to technical details to convey to one skilled in the art to which the invention pertains a clear understanding of the nature, purpose, operation and, as the case may be, the physical, chemical, biological, or electrical characteristics of the invention. However, if any Subject Invention is obviously unpatentable under the patent laws of the United States, such disclosure need not be made thereon. On request of the Project Officer, the grantee shall comment respecting the differences or similarities between the invention and the closest prior art drawn to his attention.

(2) Except in the instance of a determination, pursuant to paragraph (3) of this Section, by the Administrator to leave to the grantee rights greater than a nonexclusive license, the grantee agrees to grant and does hereby grant to the Government the full and entire domestic right, title, and interest in the Subject Invention, subject to retention by the grantee of a revocable, nonexclusive, royalty-free license to practice the Subject Invention. Any such license granted shall extend to any existing and future companies controlled by, controlling or under common control with the grantee and shall be assignable to the successor of the part of the grantee's business to which such invention pertains. Said license to the grantee may be revoked by the Administrator or his designee if it is determined that it is necessary to issue an exclusive license, pursuant to then applicable Government regulations, in order to more expeditiously bring the invention to commercialization; provided, however, that the grantee shall be provided the opportunity to present to the Administrator reasons why said license should not be revoked.

(3) Not later than three (3) months after the disclosure of a Subject Invention pursuant to paragraph (1) of this Section, and without regard to whether the invention is a primary object of this grant, the grantee may submit a request in writing to the Project Officer for a determination by the Administrator leaving the grantee greater rights than that reserved to the grantee in paragraph (2) of this Section. Such request should set forth information and facts which, in the grantee's opinion, should justify a determination that:

(i) In the case of a Subject Invention which is clearly a primary object of this grant, the acquisition of such greater rights by the grantee is both consistent with the intent of Section 1(a) of the Statement and is either a necessary incentive to call forth private risk capital and expense to bring the invention to the point of practical application or is justified because the Government's contribution to such invention is small compared to that of the grantee; or that

(ii) The Subject Invention is not a primary object of this grant, and that the acquisition of such greater rights will serve the public interest as expressed in the Statement, particularly when taking into account the scope and nature of the grantee's stated intentions to bring the invention to the point of practical application and the guidelines of Section 1(a) of the Statement. The Administrator will review the grantee's request for greater rights and will make a determination, either granting the request in whole or in part, or denying the request in its entirety. The grantee will be notified of such determination.

(4) In the event greater rights in any Subject Invention are vested in or granted to the grantee pursuant to paragraph (3) of this Section:

(i) The grantee's rights in such inventions shall, as a minimum, be subject to a nonexclusive, nontransferable, paid-up license to the Government to practice the invention throughout the world by or on behalf of the Government (including any Government agency) and States and domestic municipal governments, unless the Administrator determines that it would not be in the public interest to acquire the license for the States and domestic municipal governments; and said license shall include the right to sublicense any foreign government pursuant to any existing or future treaty or agreement if the Administrator determines it would be in the national interest to acquire this right; and

(ii) The grantee further agrees to and does hereby grant to the Government the right to require the granting of a license to a responsible applicant(s) under any such invention:

(a) On a nonexclusive or exclusive basis on terms that are reasonable under the circumstances, unless the grantee, its licensees or its assignees demonstrate to the Government, at the Government's request, that effective steps have been taken within three (3) years after a patent was issued on any such invention to bring it to the point of practical application, or that it has been made available for licensing royalty-free or in terms that are reasonable in the circumstances, or can show cause why the time period should be extended, or

(b) On a nonexclusive or exclusive basis on terms that are reasonable in the circumstances to the extent that the invention is required for public use by Governmental regulations or as may be necessary to fulfill

health or safety needs or for such other public purposes as are stipulated in this grant; and

(iii) The grantee shall file in due form and within six (6) months of the granting of such greater rights a U.S. patent application claiming the Subject Invention and shall furnish, as soon as practicable, the information and materials required under paragraph (2) of Section F. As to each Subject Invention in which the grantee has been given greater rights, the grantee shall notify the Project Officer at the end of six (6) months period if he has failed to file or caused to be filed a patent application covering such invention. If the grantee has filed or caused to be filed such an application within a six (6) month period but elects not to continue prosecution of such application, he shall so notify the Project Officer, and EPA Patent Counsel not less than forty-five (45) days before the expiration of the response period. In either of the situations covered by the two immediately preceding sentences, the Government shall be entitled to all right, title, and interest in such Subject Invention subject to the reservation to the grantee of a revocable royalty-free, nonexclusive license therein.

(iv) The grantee shall, if requested by the Government, either before or after final closeout of this grant, furnish written reports at reasonable intervals, as to:

(a) The commercial use that is being made or is intended to be made of such invention;

(b) The steps taken by the grantee to bring such invention to the point of practical application, or to make the invention available for licensing.

(5) Even in the event the Government elects to take the full and entire domestic title and interest in a Subject Invention, the Project Officer may request, prior to grant closeout, that the grantee prepare a domestic patent application for filing in the United States Patent Office on such invention and deliver it to the Project Officer for filing by EPA. Reasonable costs incurred for the preparation of such application or any revision thereof requested by EPA shall be allowable project costs.

C. *Foreign rights and obligations.* (1) Subject to the waiver provisions of paragraph (2) of this section, it is agreed that the entire foreign right, title, and interest in any Subject Invention shall be in the Government, as represented for this purpose by the Administrator. The Government agrees to grant and does hereby grant to the grantee a royalty-free nonexclusive license to practice the invention under any patent obtained on such Subject Invention in any foreign country. The license shall extend to existing and any future companies controlled by, controlling or under common control with the grantee, and shall be assignable to the successor of the part of the grantee's business to which such invention pertains.

(2) The grantee may request the foreign rights to a Subject Invention at any time subsequent to the reporting of such invention. The response to such request and notification thereof to the grantee will not be unreasonably delayed. The Government will waive title to the grantee to such Subject Invention in foreign countries in which the Government will not file an application for a patent for such invention, or otherwise secure protection therefor. Whenever the grantee is authorized to file in any foreign country the Government will not thereafter proceed with filing in such country except on the written agreement of the grantee, unless such authorization has been revoked pursuant to paragraph (3) of this Section.

(3) In the event the grantee is authorized to file a foreign patent application on a Subject Invention, the Government agrees that it will use its best efforts not to publish a description of such invention until a United States or foreign application on such invention is filed, whichever is earlier, but neither the Government, its officers, agents, or employees shall be liable for an inadvertent publication thereof. If the grantee is authorized to file in any foreign country, he shall, on request of the Project Officer, furnish to the Government a patent specification in English within six (6) months after such authorization is granted, prior to any foreign filing and without additional compensation. The Project Officer, after concurrence by the EPA Patent Counsel, may revoke such authorization on failure on the part of the grantee to file any such foreign application within nine (9) months after such authorization has been granted.

(4) If the grantee files patent applications in foreign countries pursuant to authorization granted under paragraph (3) of this section, the grantee agrees to grant to the Government an irrevocable, nonexclusive, paid-up license to practice by or on its behalf the invention under any patents which may issue thereon in any foreign country. Such license shall include the right to issue sublicenses pursuant to any existing or future treaties or agreements between the Government and a foreign government for uses of such foreign government, provided the Administrator determines that it is in the national interest to acquire such right to sublicense.

(5) In the event the Government or the grantee elects not to continue prosecuting any foreign application or to maintain any foreign patent on a Subject Invention, the other party shall be notified no less than sixty (60) days before the expiration of the response period or maintenance tax due date, and upon written request, shall execute such instruments (prepared by the party wishing to continue the prosecution or to maintain such patent) as are necessary to enable such party to carry out its wishes in this regard.

D. *Licenses under background patents.* (1) The grantee agrees that he will make his Background Patent(s) available for use in conjunction with a Subject Invention or Specified Work Object for use in the specific field of technology in which the purpose of this grant or the work called for or required thereunder falls. This may be done (i) by making available, in quality, quantity, and price all of which are reasonable to the circumstances, an embodiment of the Subject Invention or Specified Work Object, which incorporates the invention covered by such Background Patent, as a Commercial Item, or (ii) by the sale of an embodiment of such Background Patent as a Commercial Item in a form which can be employed in the practice of a Subject Invention or Specified Work Object or can be so employed with relatively minor modifications, or (iii) by the licensing of the domestic Background Patent(s) at reasonable royalty to responsible applicants on their request.

(2) If the Administrator determines after a hearing that the quality, quantity, or price of embodiments of the Subject Invention or Specified Work Object sold or otherwise made available commercially as set forth in (D)(1)(i) is unreasonable in the circumstances, he may require the grantee to license such domestic Background Patent to a responsible applicant at reasonable terms, including a reasonable royalty, for use in the specific field of technology in which the purpose of this grant or the work called for thereunder falls, and for use in connection with (i) a Specified Work Object, or (ii) a Subject Invention.

(3)(i) When a license to practice a domestic Background Patent in conjunction with a Subject Invention or Specified Work Object is requested in writing by a responsible applicant, for use in the specific field of technology in which the purpose of this grant or the work called for thereunder falls, and such Background Patent is not available as set forth in D(1) (i) or (ii), the grantee shall have six (6) months from the date of his receipt of such request to decide whether to make such Background Patent so available. The grantee shall promptly notify EPA in writing of any request for a license to practice a Background Patent in conjunction with a Subject Invention or Specified Work Object, which the grantee or his exclusive licensee wish to attempt to make available as set forth in D(1) (i) or (ii).

(ii) If the grantee decides to make such domestic Background Patent so available either by himself or by an exclusive licensee, he shall so notify the Administrator within the said six (6) months, whereupon the Administrator shall then designate the reasonable time within which the grantee must make such Background Patent available in reasonable quantity and quality, and at a reasonable price. If the grantee or his exclusive licensee decides not to make such Background Patent so available, or fails to make it available within the time designated by the Administrator, the Background Patent shall be licensed to a responsible applicant at reasonable terms, including a reasonable royalty, in conjunction with (a) a Specified Work Object, or (b) a Subject Invention, and may be limited to the specific field of technology in which the purpose of this grant or the work called for thereunder falls.

(iii) The grantee agrees to grant or have granted to a designated applicant, upon the written request of the Government, a nonexclusive license at reasonable terms, including reasonable royalties, under any foreign Background Patent in furtherance of any treaty or agreement between the Government of the United States and a foreign government for practice by or on the behalf of such foreign government, if an embodiment of the Background Patent is not commercially available in that country; provided, however, that no such license will be required unless the Administrator determines that issuance of such license is in the national interest. Such license may be limited by the licensor to the practice of such Background Patent in conjunction with a Subject Invention or a Specified Work Object and for use in only the specific field of technology in which the purpose of this grant or the work called for thereunder falls.

(iv) The grantee agrees it will not seek injunctive relief or other prohibition of the use of the invention in enforcing its rights against any responsible applicant for such license and that it will not join with others in any such action. It is understood and agreed that the foregoing shall not affect the grantee's right to injunctive relief or other prohibition of the use of Background Patents in areas not connected with the practice of a Subject Invention or Specified Work Object in the specific field of technology in which the purpose of this grant or the work called for thereunder falls, or where the grantee has made available a Commercial Item as set out in paragraph D(1) (i) or (ii).

(4) For use in the specific field of technology in which the purpose of this grant or the work called for thereunder falls, and in conjunction with a Subject Invention or a Specified Work Object, the grantee agrees to grant to the Government a license under any Background Patent. Such license shall be nonexclusive, nontransferable, royalty-free and worldwide to practice such patent which is not available as a Commercial Item as specified in Paragraph D(1)(ii) for use of the Federal Government in connection with pilot plants, demonstration plants, test beds, and test modules. For all other Government

uses, any royalty charged the Government under such license shall be reasonable and shall give due credit and allowance for the Government's contribution, if any, toward the making, commercial development, or enhancement of the invention(s) covered by the Background Patent.

(5) Any license granted under a process Background Patent for use with a specified Work Object shall be additionally limited to employment of the Background Patent under conditions and parameters reasonably equivalent to those called for or employed under this grant.

(6) It is understood and agreed that the grantee's obligation to grant licenses under Background Patents shall be limited to the extent of the grantee's right to grant the same without breaching any unexpired contract it had entered into prior to this grant or prior to the identification of a Background Patent, or without incurring any obligation to another solely on account of said grant. However, where such obligation is the payment of royalties or other compensation, the grantee's obligation to license his Background Patents shall continue and the reasonable license terms shall include such payments by the applicant as will at least fully compensate the grantee under said obligation to another.

(7) On the request of the Project Officer, the grantee shall identify and describe any license agreement which would limit his right to grant licenses under any Background Patent.

(8) In the event the grantee has a parent or an affiliated company, which has the right to license a patent which would be a Background Patent if owned by the grantee, but which is not available as a Commercial Item as specified in paragraph D(1) (i) or (ii), and a qualified applicant requests a license under such patent for use in the specific field of technology in which the purpose of this contract or the work called for thereunder falls, and in connection with the use of a Subject Invention or Specified Work Object, the grantee shall, at the written request of the Government, recommend to his parent company, or affiliated company, as the case may be, the granting of the requested license on reasonable terms, including reasonable royalties, and actively assist and participate with the Government and such applicant, as to technical matters and in liaison functions between the parties, as may reasonably be required in connection with any negotiations for issuance of such license. For the purpose of this subparagraph, (i) a parent company is one which owns or controls, through direct or indirect ownership of more than 50 percent of the outstanding stock entitled to vote for the election of directors, another company or other entity, and (ii) affiliated companies are companies or other entities owned or controlled by the same parent company.

E. *Related inventions.* At the request of the Project Officer made during or subsequent to the term of this grant including any extensions for additional research and development work, the grantee shall furnish information concerning any invention which appears to the Project Officer to reasonably have the possibility of being a Subject Invention.

All information supplied by the grantee hereunder shall be of such nature and character as to enable the Project Officer, with the concurrence of the EPA Patent Counsel, reasonably to ascertain whether or not the invention concerned is a Subject Invention. Failure to furnish such information called for herein shall, in any subsequent proceeding, place on the grantee the burden of going forward with the evidence to establish that such invention is not a Subject Invention. If such evidence is not then presented the invention shall be deemed to be a Subject Invention. After receipt of information furnished pursuant hereto, the Project Officer shall not unduly delay rendering his opinion on the matter. The Project Officer's decision shall be subject to the Disputes Clause of the grant. The grantee may furnish the information required under this Section E as grantee confidential information, which shall be identified as such.

F. *General provisions.* (1) The grantee shall obtain the execution of and deliver to the Project Officer any document, including domestic patent applications (see B(5) hereof), relating to Subject Inventions as the Project Officer may require under the terms hereof to enable the Government to file and prosecute patent applications therefor in any country and to evidence and preserve its rights. Each party hereto agrees to execute and deliver to the other party on its request suitable documents to evidence and preserve license rights derived from this Appendix.

(2) The Government and the grantee shall promptly notify each other of the filing of a patent application on a Subject Invention in any country, identifying the country or countries in which such filing occurs and the date and serial number of the application, and on request shall furnish a copy of such application to the other party and a copy of any action on such patent application by any Patent Office and the responses thereto. Any applications or responses furnished shall be kept confidential, unless the Government has title to the invention.

(3) Any other provisions of this Appendix notwithstanding, the Project Officer, or any authorized EPA representative shall, until the expiration of three (3) years after submission of the final financial status report under this grant, have the right to examine in confidence any books, records, documents, and other supporting data of the grantee which the Project Officer or any authorized EPA representative shall reasonably deem directly pertinent to the discovery or identification of Subject Inventions or to the compliance by the grantee with the requirements of this Appendix.

(4) Notwithstanding the grant of a license under any patents to the Government pursuant to any provisions of this Appendix, the Government shall not be prevented from contesting the validity, enforceability, scope, or title of such licensed patent.

(5) The grantee shall furnish to the Project Officer every 12 months, or earlier as may be agreed in this grant (the initial period shall commence with the date of award of this grant) an interim report listing all Subject Inventions required to be disclosed which were made during the interim reporting period or certify that there are no such unreported inventions.

(6) The grantee shall submit a final report under this grant listing all Subject Inventions required to be disclosed which were made in the course of the work performed under this grant, and all subagreements subject to this Appendix. If to the best of the grantee's knowledge and belief, no Subject Inventions have resulted from this grant, the grantee shall so certify to the Project Officer. If there are no such subagreements, a negative report is required.

(7) The interim and final reports submitted under F (5) and (6) and Subject Invention disclosures required under B(1) shall be submitted on EPA forms which will be furnished by the Project Officer on request. Any equivalent form approved by the Project Officer with the concurrence of the EPA Patent Counsel may be used in lieu of EPA forms. Such reports and disclosures shall be submitted in triplicate.

(8) Any action required by or of the Government under this patent provision shall be undertaken by the Project Officer or other authorized EPA official as its duly authorized representative unless otherwise stated.

(9) The Government may duplicate and disclose reports and disclosures of Subject Inventions required to be furnished by the grantee pursuant to this Appendix without additional compensation.

(10) The grantee shall furnish to the Project Officer, in writing, and as soon as practicable, information as to the date and identity of any first public use, sale or publication of any Subject Invention made by or known to the grantee, or of any contemplated publication of the grantee.

(11) The Administrator shall determine the responsibility of an applicant for a license under any provision of this patent provision when this matter is in dispute and his determination thereof shall be final and binding.

(12) The grantee shall furnish promptly to the Project Officer or other authorized EPA official on request an irrevocable power to inspect and make copies of each U.S. patent application filed by or on behalf of the grantee covering any Subject Invention.

(13) The grantee shall include in the first paragraph in any U.S. patent application which it may file on a Subject Invention the following statement:

This invention resulted from work done under Grant No. ---- with the Environmental Protection Agency and is subject to the terms and provisions of said Grant.

(14) All information furnished in confidence pursuant to this Appendix shall be clearly identified by an appropriate written legend. Such information shall be subject to the provisions of the Freedom of Information Act, 5 U.S.C. 552, and shall in any event cease to be confidential if it is or becomes generally available to the public, or has been made or becomes available to the Government (i) from other sources, or (ii) by the grantee without limitation as to use, or was already known to the Government when furnished to it.

(15) Any action by the Project Officer affecting the disposition of rights to patents or inventions pursuant to this Appendix shall be taken only after review by the Office of General Counsel.

G. *Warranties.* (1) The grantee warrants that whenever he has divested himself of the right to license any Background Patent (or any invention owned by the grantee which could become the subject of a Background Patent) prior to the date of this grant, such divestment was not done to avoid the licensing requirements set forth in Section D of this Appendix. After a Background Patent, or invention which could become the subject of a Background Patent, is identified, the grantee shall take no action which shall impair the performance of his obligation to issue Background Patent licenses pursuant to this grant.

(2) The grantee warrants that he will take no action which will impair his obligation to assign to the Government any invention first actually conceived or reduced to practice in the course of or under this grant.

(3) The grantee warrants that he has full authority to make obligations of this Appendix effective, by reason of agreements with all of the personnel, including consultants who might reasonably be expected to make inventions, and who will be employed in work on the project for which the grant has been awarded, to assign to the grantee all discoveries and inventions made within the scope of their employment.

H. *Subagreements.* This Appendix shall be included in any subagreement over $10,000 under this grant where a purpose of the subagreement is the conduct of experimental, developmental, research, or demonstration work, unless the Grant Approving Official

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with the concurrence of the EPA Patent Counsel, authorizes the omission or modification of this Appendix. The grantee shall not acquire any rights to Subject Inventions made under such subagreement for his own use (as distinguished from such rights as may be required solely to fulfill his grant obligations to the Government in performance of this grant). Upon completion of work under such a subagreement, the grantee shall promptly notify the Project Officer in writing of such completion, and shall upon request furnish a copy of the subagreement to the Project Officer. The grantee hereby assigns to the Government all rights of the grantee to enforce the obligations of the party to such subagreement with respect to Subject Inventions, Background Patents, and pursuant to Section E of this Appendix. The grantee shall cooperate with the Government at the Government's request and expense in any legal action to secure the Government's rights.

APPENDIX C—RIGHTS IN DATA AND COPYRIGHTS

1. The term "Subject Data" as used herein includes writings, technical reports, sound recordings, magnetic recordings, computer programs, computerized data bases, pictorial reproductions, plans, drawings, specifications, or other graphical representations, and works of any similar nature (whether or not copyrighted) which are submitted with a proposal or grant application or which are specified to be delivered under this grant or which are developed or produced and paid for under this grant. The term does not include financial reports, cost analyses, and other information incidental to grant administration.

2. Except as may otherwise be provided in the grant agreement, when publications, films, or similar materials are developed directly or indirectly from a project supported by the Environmental Protection Agency, the author is free to arrange for copyright without approval. However, such materials shall include acknowledgement of EPA grant assistance. The grantee agrees to and does hereby grant to the Government, and to its officers, agents, and employees acting within the scope of their official duties, a royalty-free, nonexclusive, and irrevocable license throughout the world for Government purposes to publish, translate, reproduce, deliver, perform, dispose of, and to authorize others so to do, all Subject Data, or copyrightable material based on such data, now or hereafter covered by copyright.

3. The grantee shall not include in the Subject Data any copyrighted matter, without the written approval of the Project Officer, unless he provides the Government with the written permission of the copyright owner for the Government to use such copyrighted matter in the manner provided in Article 2 above.

4. The grantee shall report to the Project Officer, promptly and in reasonable written detail, each notice or claim of copyright infringement received by the grantee with respect to all Subject Data delivered under this grant.

5. Nothing contained in this Appendix shall imply a license to the Government under any patent or be construed as affecting the scope of any license or other rights otherwise granted to the Government under any patent.

6. Unless otherwise limited below, the Government may, without additional compensation to the grantee, duplicate, use, and disclose in any manner and for any purpose whatsoever, and have others so do, all Subject Data.

7. Notwithstanding any provisions of this grant concerning inspection and acceptance, the Government shall have the right at any time to modify, remove, obliterate, or ignore any marking not authorized by the terms of this grant on any piece of Subject Data furnished under this grant.

8. Data need not be furnished for standard commercial items or services which are normally or have been sold or offered to the public commercially by any supplier and which are incorporated as component parts in or to be used with the product or process being developed or investigated, if in lieu thereof identification of source and characteristics (including performance specifications, when necessary) sufficient to enable the Government to procure the part or an adequate substitute, are furnished; and further, proprietary data need not be furnished for other items or processes which were developed at private expense and previously sold or offered for sale or commercially practiced in the case of a process, including minor modifications thereof, which are incorporated as component parts in or to be used with the product or process being developed or investigated, if in lieu thereof the grantee shall identify such other items or processes and that "proprietary data" pertaining thereto which is necessary to enable reproduction or manufacture of the item or performance of the process. For the purpose of this clause, "proprietary data" means data providing information concerning the details of a grantee's secrets of manufacture, such as may be contained in but not limited to his manufacturing methods or processes, treatment and chemical composition of materials, plant layout and tooling, to the extent that such information is not readily disclosed by inspection or analysis of the product itself and to the extent that the grantee has protected such information from unrestricted use by others.

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I. 3

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Title 40—Protection of Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

SUBCHAPTER B—GRANTS

[FRL 367-1]

GENERAL GRANT REGULATIONS

Technical Amendments to Chapter

Technical amendments are hereby promulgated to incorporate reference changes resulting from finalizing the Environmental Protection Agency General Grant Regulations (40 CFR Part 30) promulgated elsewhere in this issue. Pursuant to the authority of the Administrator of the Environmental Protection Agency, contained in 40 CFR 30.101, parts 35, 40, 45, and 48 are amended as follows:

PART 35—STATE AND LOCAL ASSISTANCE

§ 35.215 [Amended]

1. In § 35.215 delete the reference to 40 CFR 30.301 through 30.301–5 and substitute 40 CFR 30.315 through 30.315–5.

§ 35.315–2 [Amended]

2. In § 35.315–2 delete the reference to 40 CFR 30.301 through 30.301–5 and substitute 40 CFR 30.315 through 30.315–5.

§ 35.415 [Amended]

3. In § 35.415 delete the reference to § 30.602–1 and substitute § 30.615–3.

§ 35.420 [Amended]

4. In § 35.420 delete the reference to § 30.305 and substitute § 30.345.

§ 35.530 [Amended]

5. In § 35.530, paragraphs (d) and (e), delete reference to § 30.903 and substitute § 30.920.

§ 35.557 [Amended]

6. In § 35.557, paragraph (a), delete reference to § 30.305 and substitute § 30.345.

§ 35.559–7 [Amended]

7. In § 35.559, paragraphs (a) and (b), delete reference to § 30.903 and substitute § 30.920.

§ 35.815–2 [Amended]

8. In § 35.815–2, paragraph (b)(4), delete the parenthetical reference to (40 CFR 30.1001) and substitute (40 CFR 30.1000).

§ 35.840 [Amended]

9. In § 35.840, paragraph (j), delete the reference to 40 CFR 30.900–1 and substitute 40 CFR 30.900. In paragraph (k) delete the reference to 40 CFR 30.900–1 in the first sentence and substitute 40 CFR 30.900. In het second sentence delete the reference to 40 CFR 30.901 and substitute 40 CFR 30.900–1.

§ 35.903 [Amended]

10. In § 35.903, paragraph (o) delete the reference to § 30.1001 and substitute § 30.1000.

§ 35.920–3 [Amended]

11. In § 35.920–3, paragraph (b)(5), delete the reference to § 30.403(d) and substitute § 30.405–2.

§ 35.927–5 [Amended]

12. In § 35.927, paragraph (c), delete the reference to § 30.304 in the last sentence and substitute § 30.430.

§ 35.930 [Amended]

13. In § 35.930, delete the reference to § 30.305 in the first sentence and substitute § 30.345.

§ 35.930–3 [Amended]

14. In § 35.930–3, delete the reference to § 30.305–1 and substitute § 30.345–1

§ 35.935–5 [Amended]

15. In § 35.935–5, delete the reference to § 30.403 (a), (b) and (c) of this chapter and substitute § 30.415–1 through § 30.415–4 of this chapter.

§ 35.935–10 [Amended]

16. In § 35.935–10, delete the reference to § 30.900–1 and substitute § 30.900.

§ 35.935–11 [Amended]

17. In § 35.935–11, delete the reference in the first sentence to § 30.900–1 and substitute § 30.900; and in the last sentence, delete the reference to § 30.901 and substitute § 30.900–1.

§ 35.935–13 [Amended]

18. In § 35.935–13(c), delete the reference to § 30.404 and substitute § 30.–435.

§ 35.940 [Amended]

19. In § 35.940, delete the reference to § 30.701 and substitute § 30.705.

§ 35.940–1 [Amended]

20. In § 35.940–1, paragraph (p), delete the reference to § 30.604–4 and substitute § 30.625–3.

§ 35.940–5 [Amended]

21. In § 35.940–5, delete the end of the second sentence after "Disputes" and substitute "provisions of Part 30, Subpart J, of this subchapter."

§ 35.945 [Amended]

22. In § 35.945, paragraph (b), delete in the second sentence the reference to § 30.602–1 and substitute § 30.615–3.

§ 35.950 [Amended]

23. In § 35.950, in the first sentence delete the reference to "§ 30.902 of this Subchapter and Article 4 of the General Grant Conditions (Appendix A to this Subchapter)" and substitute § 30.915 and delete the reference to "§ 30.903 of this subchapter and Article 5 of the General Grant Conditions (Appendix A of this Subchapter)" and substitute § 30.920.

§ 30.955 [Amended]

24. In § 35.955 delete the reference to § 30.901 and substitute § 30.900–1.

§ 35.960 [Amended]

25. In § 35.960, delete the last thirteen words beginning with "article" and substitute "provisions of Part 30, Subpart J" of this subchapter."

§ 35.1059–3 [Amended]

26. In § 35.1059–3, delete the reference to § 30.602–1 and substitute § 30.615–3.

§ 35.1061 [Amended]

27. In § 35.1061, delete the reference to §§ 30.902 and 30.903 and substitute §§ 30.915 and 30.920.

§ 35.1062 [Amended]

28. In § 35.1062, delete the reference to § 30.701 and substitute § 30.705.

PART 40—RESEARCH AND DEVELOPMENT GRANTS

§ 40.125–2 [Amended]

29. In § 40.125–2, delete the reference to § 30.207 and substitute § 30.720.

§ 40.130 [Amended]

30. In § 40.130, in the first sentence, delete the reference to § 30.304 and substitute § 30.340.

§ 40.135–2 [Amended]

31. In § 40.135–2, in the first sentence, delete the reference to 40 CFR 30.301 through 30.301–4 and substitute § 30.315 through 30.315–3.

§ 40.145 [Amended]

32. In § 40.145, in the first sentence, delete "Appendix A to Subchapter B of 40 CFR and." In paragraph (b), the first sentence, delete the reference to 40 CFR 30.900–1 and substitute 40 CFR 30.900. In the second sentence delete the reference to 40 CFR 30.901 and substitute 40 CFR 30.900–1.

§ 40.145–3 [Amended]

33. In § 40.145–3, in paragraph (k), delete the reference to 40 CFR 30.900–1 and substitute 40 CFR 30.900.

§ 40.155 [Amended]

34. In § 40.155, delete the reference to § 30.1001 in paragraph (c) and substitute § 30.1000.

§ 40.160–3 [Amended]

35. In § 40.160–3, in the first sentence, delete "this subchapter" and substitute "40 CFR Part 30."

PART 45—TRAINING GRANTS AND MANPOWER FORECASTING

§ 45.135 [Amended]

36. In § 45.135, in the first sentence, delete "(Appendix A to Subchapter B of this title)", and in the last undesignated flush paragraph, delete the last sentence and substitute "Any sums received by the grantee shall be credited to the EPA grant payments or paid to the United States."

§ 45.145 [Amended]

37. In § 45.145, delete the reference to § 30.701 and substitute § 30.705.

PART 46—FELLOWSHIPS

§ 46.165 [Amended]

38. In § 46.165, delete the reference to § 30.1001 and substitute § 30.1000.

Subchapter B [Amended]

In Subchapter B, delete appendices A, B and C.

Effective date. These amendments shall be effective on June 10, 1975.

JOHN QUARLES,
Acting Administrator.

MAY 2, 1975.

[FR Doc.75–13098 Filed 5–7–75 8:45 am]

Title 40—Protection of Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

SUBCHAPTER B—GRANTS

[FRL 269-5]

PART 35—STATE AND LOCAL ASSISTANCE

Administration of Construction Grants

On February 11, 1974, final regulations governing the administration of the construction grants program were published in the FEDERAL REGISTER. Those regulations enunciated Environmental Protection Agency policy of delegating to receptive States specified review functions in an effort to eliminate duplication, increase efficiency, and place greater reliance on the capabilities of the States. Experience with certification agreements in several States has indicated that further use is warranted. Certain direct costs associated with review and certification efforts are, under existing regulations, chargeable to the State program grant. However, in order to encourage States to assume greater responsibility for the review and certification of construction grant documents (requirements) and to properly and effectively carry out their duties commensurate with these responsibilities, Federal financial assistance must be increased and, to the extent possible, this assistance needs to be related to the grant review effort involved.

These amendments formalize and make allowable direct costs associated with specified review functions and provide for reimbursing the State—from construction grant allotments—subject to limitations defined by the Administrator.

Accordingly, 40 CFR, Part 35 is amended by revising § 35.913 and adding §§ 35.913, 35.940-1(q) to read as follows:

§ 35.912 Delegation to State agencies.

It is the policy of the Environmental Protection Agency, in the furtherance of its program, to maximize the utilization of staff capabilities of State agencies. Therefore, in the implementation of the construction grant program, optimum use will be made of available State and Federal resources to eliminate unnecessary duplicative reviews of documents required in the processing of construction grant awards. Accordingly, the Regional Administrator may enter into a written agreement, where appropriate, with a State agency to authorize certification by the State agency of the technical and/or administrative adequacy of specifically required documents. Such agreement may provide for the review and certification of all or selected elements of (a) facilities plans (Step 1), (b) plans and specifications (Step 2), (c) operation and maintenance manuals (a requirement for a Step 3 award), and (d) such other elements as the Administrator determines may be appropriately delegated as the program permits and State competency allows. Such agreements will define requirements which States will be expected to fulfill as part of their general responsibilities for the conduct of an effective preaward applicant assistance program—compensation for which shall be the responsibility of the State; and, specific duties with regard to the review of identified documents prerequisite to the receipt of grant awards—costs for which will be chargeable to the grants. Reasonable direct costs incurred by a State in the performance of these review functions are allowable direct costs chargeable to such grants. The Administrator shall provide guidelines on the limitations of effort (performance) for which direct costs shall be allowed and shall establish limitations on the amount of such costs as he may deem appropriate. A certification agreement must provide that an applicant or grantee may request review by the Regional Administrator of an adverse recommendation by a State agency.

§ 35.913 State authority to collect fees from municipalities for certain construction grant activities performed by the State.

Where permitted by State law, States are authorized to charge municipalities fees for State performance of review functions related to construction project activities governed by these regulations. These functions are the review and certification of elements of (a) facility plans (Step 1), (b) plans and specifications (Step 2), (c) operation and maintenance manuals and (d) such other elements as the Administrator determines may be appropriately delegated. The purpose of this authorization is to permit States to be compensated for those review and certification activities which are required to be performed by the States preparatory to the approval of Step 1, Step 2 and Step 3 grants for waste water treatment projects.

(a) Fees will be charged on the basis of a percentage of each Step 1 and Step 3 grant made and of the actual cost of operation and maintenance manuals to municipalities. The amount of the fee will be specified in guidance from the Administrator. In no case will the total amount of fees charged by a State, when aggregated during a given fiscal year period, exceed ½ of one percent of that State's construction grant allotment for that fiscal year.

(b) Additional funds required to cover the amount of the fees chargeable in paragraph (a) of this section will be provided for in the allotment reserve for Step 1 and Step 2 projects as set forth in § 35.915(1).

(c) EPA audits of the States will determine that fees collected under paragraph (a) of this section are (1) used for review and certification of elements of facilities plans, plans and specifications and O&M manuals of projects on which grants were awarded and for no other purposes and (2) based on the reasonable cost of the work performed.

(d) Provisions for adjusting State grant funds allocated pursuant to Section 104 of the Act as a result of the actual and projected collection of fees for activities described above are set forth in § 35.940.

§ 35.940-1 Allowable costs.

* * * * *

(q) State agency review costs pursuant to § 35.913 and § 35.913.

(Secs. 109(b), 201-206, 207, 210-212, and 301(a), 302, and 511 of Pub. L. 92-500 (86 Stat. 816; 33 U.S.C. 1251) as amended by Pub. L. 93-243.)

Effective date. These amendments shall become effective October 31, 1974.

JOHN QUARLES,
Acting Administrator.

SEPTEMBER 24, 1974.

[FR Doc. 74-23081 Filed 9-30-74; 8:45 am]

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Title 40—Protection of Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

SUBCHAPTER D—GRANTS

PART 35—STATE AND LOCAL ASSISTANCE

Reimbursement Grants

Reimbursement grant regulations published on September 26, 1973 (38 FR 26883) are hereby amended to conform to Pub. L. 93-207.

The amendments delete provisions of the existing regulations which set forth a method of prioritizing the funding for certain classes of projects eligible for reimbursement grants under section 206(a) of the Federal Water Pollution Control Act Amendments (33 U.S.C. 1286), and insure that all 1966-72 projects otherwise eligible under the Act will be reimbursed pro rata from sums now available for reimbursement grants. In addition, the regulations are amended pursuant to section 3 of Pub. L. 93-207 to provide that the time for submission of applications for reimbursement be extended until January 31, 1974, that eligible project costs be computed as of January 31, 1974 and that reimbursement from funds appropriated under Pub. L. 93-200 be used solely for section 206(a) projects.

On October 18, 1973, notice of this proposed rulemaking (not including changes in application or cost computation dates or limiting Pub. L. 93-200 funds to section 206(a) projects as provided in Pub. L. 93-207) was published in the FEDERAL REGISTER (38 FR 28572). Written comments were invited and received from interested parties and are on file with the Environmental Protection Agency. Ten responses to the invitation to comment were received. Of that number, seven fully supported the amendment and one encompassed only procedural comments. Two respondents were opposed to the changes, preferring a return to the priority system as delineated in the original regulations. Since the only negative responses called for a course of action now precluded by Pub. L. 93-207, no changes were made in the amendment as proposed.

Effective date. The amended regulation hereby promulgated shall be effective on January 26, 1974, in order to comply with the requirements of Pub. L. 93-207 prior to January 31, 1974, the revised date for submission of claims under section 206 of the Act.

RUSSELL E. TRAIN,
Administrator.

JANUARY 18, 1974.

A new Subpart D is herewith added to 40 CFR Part 35 to read as set forth below.

Subpart D—Reimbursement Grants

Sec.
35.850 Purpose.
35.855 Project eligibility.
35.860 Eligible costs.
35.865 Applications.
35.870 Allocations generally.
35.875 Priority for funds appropriated by Pub. L. 92-399 and authorized in Pub. L. 93-207.
35.880 Grant amount.
35.885 Obligation and payment schedule.
35.890 Initiation of construction.
35.895 Disputes.

AUTHORITY: Sec. 206, Federal Water Pollution Control Act Amendments of 1972, as amended by Pub. L. 93-207.

Subpart D—Reimbursement Grants

§ 35.850 Purpose.

This subpart governs all grants pursuant to section 206(a) through (e) of the 1972 Amendments to the Federal Water Pollution Control Act (as amended by Pub. L. 93-207, December 28, 1973) for reimbursement of State or local funds used for publicly owned sewage treatment works.

§ 35.855 Project eligibility.

(a) Grants may be made for reimbursement of State or local funds used for public sewage treatment works projects on which construction was initiated after June 30, 1966, but before July 1, 1973: *Provided*, That construction of such project was approved by the State Water Pollution Control Agency: *And provided further*, That the Administrator finds that such project met the requirements of section 8 of the Federal Water Pollution Control Act (Pub. L. 84-660, as amended) in effect at the time of initiation of construction of the project.

(b) Grants may be made for reimbursement of State or local funds used for public sewage treatment works projects on which construction was initiated between July 30, 1966, and June 30, 1968: *Provided*, That construction of such project was approved by the State Water Pollution Control Agency: *And provided further*, That the Administrator finds that such project met the requirements of section 8 of the Federal Water Pollution Control Act (Pub. L. 84-660, as amended) in effect prior to enactment of the Federal Water Pollution Control Act Amendments of 1972 (Pub. L. 92-500).

§ 35.860 Eligible costs.

Eligible cost of construction shall include costs of preliminary planning to determine the economic and engineering feasibility of treatment works, the engineering, architectural, legal, fiscal, and economic investigations and studies, surveys, designs, plans, working drawings, specifications, procedures, and other action necessary to the construction of treatment works; and the erection, building, acquisition, alteration, remodeling, improvement, or extension of treatment works; and the inspection and supervision of the construction of treatment works.

§ 35.865 Applications.

(a) No grant under this section shall be made for any project unless an application for such grant is received by the appropriate Regional Administrator on or before January 31, 1974. Applications for reimbursement shall be made in writing (if mailed, a return receipt should be requested) and shall contain the following information:

(1) Brief description of project.

(2) Total eligible cost of project.

(3) Total amount of any Federal assistance received to date.

(4) Amount of additional Federal financial assistance requested under this section.

(5) The dates (actual or estimated) of initiation and completion of construction.

(6) Evidence of approval by State agency.

(b) The applicant must furnish such other information as may be required for determination of entitlement or quantum under this Subpart.

§ 35.870 Allocation generally.

Except as otherwise provided in §§ 35.875 and 35.880(c) funds available from appropriations for reimbursement grants for projects eligible under § 35.855 will be allocated subsequent to January 31, 1974, to each project in an amount which bears the same ratio to the unpaid balance of the reimbursement due such project (not to exceed 100 percent) as the total of such funds for such years bears to the total unpaid balance of reimbursement due all such projects on the date of enactment of such appropriation.

§ 35.875 Priority for funds appropriated by Pub. L. 92-399 and authorized in Pub. L. 93-207.

Initial allocations from funds available under Pub. L. 93-200 (August 22, 1973) and pursuant to the authorization in Pub. L. 93-207 will be made to those projects which meet the requirements of § 35.855(a).

§ 35.880 Grant amount.

(a) For projects described in § 35.865 (a), the grant amount shall not exceed a total amount equal to the difference between the amount of Federal financial assistance, if any, received under Pub. L. 84-660 (as amended) for such project, and, where eligible, 50 percent of the allowable costs of such project (or 55 percent of such costs where the Administrator determines that project construction was undertaken in conformity with a comprehensive metropolitan treatment plan): *Provided*, That reimbursement for project costs from all Federal grant sources may not exceed 80 percent of the costs of the project.

(b) For projects described in § 35.865 (b), the grant amount shall not exceed a total amount equal to the difference between the amount of Federal financial assistance, if any, received under Pub. L. 84-660 (as amended) for such project and 30 percent of the allowable costs of such project.

(c) The eligible project cost, upon which the eligible grant amount is computed, will be based on project costs received by the appropriate Regional Administrator as of January 31, 1974.

(d) A reimbursement grant will be rounded to the nearest hundred dollars. Reimbursement grants will not be awarded to projects entitled to reimbursement of less than $1,000.

§ 35.885 Obligation and payment schedule.

(a) Allocations from the funds available under Pub. L. 93-399 and funds appropriated pursuant to the authorization in Pub. L. 93-207 will be made in accordance with §§ 35.870, 35.875, and 35.880. The obligation of reimbursable grant awards to the eligible projects will commence upon completion of the processing related thereto.

(b) The initial payment request from recipients of reimbursement grant awards will be based on the amount earned (construction-in-place) on each individual project as of January 31, 1974. In no event, however, shall any payments exceed the Federal share of the cost of construction incurred to the date of the voucher covering such payment plus the Federal share of the value of the materials which have been stockpiled in the vicinity of such construction in conformity to plans and specifications for the project.

§ 35.890 Initiation of construction.

The phrase "initiation of construction," as used in this subpart, means the issuance to a construction contractor of a notice to proceed, or, if no such notice is required, the execution of a construction contract.

§ 35.895 Disputes.

Final determinations by the Regional Administrator concerning applicant eligibility, the amount to which an applicant is entitled, or allowability of costs shall be conclusive unless appealed within 30 days in accordance with the "Disputes" article (Article 7) of the EPA General Grant Conditions (Appendix A, Subchapter B of this title).

[FR Doc.74-2184 Filed 1-28-74;8:45 am]

Title 40—Protection of Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

SUBCHAPTER B—GRANTS

[FRL 339-1]

PART 35—STATE AND LOCAL ASSISTANCE

Amendment to Final Construction Grant Regulations

The Environmental Protection Agency hereby amends regulations published February 11, 1974 (39 FR 5252), as amended, for the program of construction grants for waste treatment works to include an additional allotment of sums previously withheld from allotment, in compliance with the decision of the U.S. Supreme Court in *Russell E. Train vs. City of New York*, No. 73-1377, February 18, 1975. In that case, the court affirmed a lower court decision requiring the allotment of certain sums which were authorized for construction grants but which had been withheld pursuant to Presidential directive. The withheld sums amounted to $3 billion for each of the Fiscal Years 1973, 1974 and 1975.

By amendments published February 5, 1975 (40 FR 5363), the Environmental Protection Agency made an allotment of $4 billion from withheld sums. This amount represented a substantial portion of sums withheld from Fiscal Year 1973 and 1974 allotments. The amendments below revise the latest allotment to a total of $9 billion, which represents all sums previously withheld from allotments for Fiscal Years 1973, 1974 and 1975. Thus, all $18 billion authorized by section 207 of the Federal Water Pollution Control Act, as amended, has been allotted among the States on the basis of the allotment formulae applicable to the authorized sums.

Sections 35.910-3 and 35.910-4 of the regulations, as amended, set forth the basis for and amounts of construction grant sums allotted among the States for Fiscal Years 1973, 1974 and 1975. The amendment below adds a § 35.910-5 setting forth similar information concerning the $9 billion herein allotted.

Two-thirds of the funds hereby allotted represent sums which were withheld from previous allotments for Fiscal Years 1973 and 1974. Therefore, these funds—$6 billion—are allotted on the basis of Table III of House Public Works Committee Print No. 92-50, which was used as the basis for the Fiscal Year 1973 and 1974 allotments. The remaining one-third of the funds hereby allotted represent sums which were withheld from the allotment for Fiscal Year 1975. Therefore, these funds—$3 billion—are allotted on the basis of the requirements of Pub. L. 93-243 (that is, based 50 percent on the ratios of Table I and 50 percent on the ratios of Table II of House Public Works Committee Print No. 92-28), which was used as the basis for the Fiscal Year 1975 allotments, adjusted to reflect differences arising from the application of the statutory formula to the total authorized $7 billion. (Such adjustments were required only for North Dakota and South Dakota).

The sums hereby allotted are available for obligation immediately and will remain available to each State through September 30, 1977, in order to make them available for approximately the same period of time originally contemplated by the statute. The cut-off date of September 30, 1977, was chosen in order to rationalize the reallotment requirements of the regulations with the end of the fiscal year newly established by title V of the Congressional Budget and Impoundment Control Act of 1974 (Pub. L. 93-344). Funds remaining unobligated at the end of this allotment period will be reallotted by the Administrator pursuant to § 35.910-2 of the regulations. Projects initially funded from this additional allotment will be subject to requirements for study of alternative waste management techniques and application of best practicable waste treatment technology and, as appropriate, provision for reclamation or recycling, consistent with the intent of section 201 (g)(2).

This amendment also reflects the fact that no reallotment of Fiscal Year 1973 funds was necessary after June 30, 1974, inasmuch as each State fully exhausted its Fiscal Year 1973 allotment on or before that date.

Effective date. This amendment shall be effective on February 27, 1975, in order to comply with the order of Judge Oliver Gasch of the U.S. District Court for the District of Columbia, affirmed by the U.S. Court of Appeals for the District of Columbia Circuit and the U.S. Supreme Court, that certain previously "impounded" sums of construction grant funds be immediately allotted.

Dated: February 24, 1975.

RUSSELL E. TRAIN,
Administrator.

Part 35 is amended as follows:

§ 35.910 [Amended]

Paragraph (d) of § 35.910-2, which was added by amendment dated February 5, 1975 (40 FR 5363), continues in effect, and reads as follows:

(d) No reallotment of sums allotted for Fiscal Year 1973 was made after June 30, 1974, inasmuch as each State had fully exhausted its Fiscal Year 1973 allotment on or before June 30, 1974, in accordance with section 205(b) of the Act.

§ 35.910-5, which was added by amendment dated February 5, 1975 (40 FR 5363), is amended to read as follows:

§ 35.910-5 Additional allotments of previously withheld sums.

(a) Effective immediately, a total sum of $9 billion is allotted from sums authorized, but initially unallotted, for Fiscal Years 1973, 1974 and 1975. This additional allotment shall be available for obligation through September 30, 1977, before reallotment of unobligated sums pursuant to § 35.910-2.

(b) Two-thirds of the sum hereby allotted ($6 billion) represents the initially unallotted portion of the amounts authorized for Fiscal Years 1973 and 1974. Therefore, the portion of the additional allotments derived from this sum were computed by applying the percentages set forth in § 35.910-3(b) to the total sums authorized for Fiscal Years 1973 and 1974 ($11 billion) and subtracting the previously allotted sums, set forth in § 35.910-3(c).

(c) One-third of the sum hereby allotted ($3 billion) represents the initially unallotted portion of the amounts authorized for Fiscal Year 1975. Therefore, the portion of the additional allotments derived from this sum were computed in a three-step process: first, by applying the percentages set forth in § 35.910-4(b) to the total sums authorized for Fiscal Year 1975 ($7 billion); then, by making adjustments necessary to assure that no State's allotment of such sums fell below its Fiscal Year 1972 allotment, pursuant to Pub. L. 93-243; and, finally, by subtracting the previously allotted sums set forth in § 35.910-4(c).

(d) Based upon the computations set forth in paragraphs (b) and (c) of this section, the total additional sums hereby allotted to the States are as follows:

Alabama	941,975,850
Alaska	29,280,500
Arizona	18,833,430
Arkansas	20,822,700
California	945,776,850
Colorado	43,113,300
Connecticut	139,091,200

Delaware	56,304,900
District of Columbia	73,462,000
Florida	346,870,100
Georgia	117,773,900
Hawaii	51,968,300
Idaho	19,319,100
Illinois	871,888,400
Indiana	361,631,900
Iowa	130,044,900
Kansas	69,794,200
Kentucky	90,490,800
Louisiana	71,713,250
Maine	78,466,200
Maryland	297,706,200
Massachusetts	293,809,100
Michigan	686,991,900
Minnesota	172,094,800
Mississippi	38,735,200
Missouri	157,471,200
Montana	13,378,300
Nebraska	38,539,800
Nevada	31,839,800
New Hampshire	77,199,350
New Jersey	660,830,300
New Mexico	15,094,900
New York	1,046,100,800
North Carolina	101,349,000
North Dakota	2,902,000
Ohio	497,227,400
Oklahoma	64,298,700
Oregon	77,542,900
Pennsylvania	488,004,300
Rhode Island	43,599,600
South Carolina	92,341,900
South Dakota	8,088,000
Tennessee	107,351,400
Texas	174,969,850
Utah	21,378,500
Vermont	23,506,600
Virginia	281,909,000
Washington	109,915,600
West Virginia	90,419,900
Wisconsin	163,227,400
Wyoming	2,930,650
Guam	6,399,200
Puerto Rico	94,910,800
Virgin Islands	7,794,500
American Samoa	756,200
Trust Territory of Pacific	2,672,900
Total	60,000,000,000

[FR Doc.75-5389 Filed 2-26-75;8:45 am]

Title 50—Wildlife and Fisheries

CHAPTER I—UNITED STATES FISH AND WILDLIFE SERVICE, DEPARTMENT OF THE INTERIOR

PART 33—SPORT FISHING

Crab Orchard National Wildlife Refuge, Illinois

The following special regulation is issued and is effective on February 27, 1975.

§ 33.5 Special regulations; sport fishing; for individual wildlife refuges.

ILLINOIS

CRAB ORCHARD NATIONAL WILDLIFE REFUGE

Sport fishing on the Crab Orchard National Wildlife Refuge, Illinois, is permitted only on the areas designated by signs as open to fishing. These open areas comprising 8,800 acres are delineated on maps available at the refuge headquarters and from the office of the Regional Director, U.S. Fish and Wildlife Service, Federal Building, Fort Snelling, Twin Cities, Minnesota 55111. Sport fishing shall be in accordance with all applicable State regulations subject to the following special conditions:

(1) The open season for sport fishing on the refuge extends from January 1, 1975, thru December 31, 1975, in areas designated on Map I and III; and from March 15, 1975 thru September 30, 1975, daylight only, in areas designated on Map II; except bank fishing is permitted from the Wolf Creek Road and State Highway 148 Causeway, during daylight hours from January 1, 1975 thru December 31, 1975. *Boat fishing* only is permitted between Wolf Creek Road west to the closed portion boundary line (Carterville Road) from January 1, 1975 thru December 31, 1975.

(2) The use of boats and motors is permitted, except that use of a boat with a motor larger than ten (10) horsepower is prohibited on Devils Kitchen Lake and on Little Grassy Lake.

(3) Snagging for carp, buffalo, freshwater drum, paddle fish, bowfin, gar and carpsucker is permitted 400 yards downstream from the Crab Orchard Lake Spillway. Fishermen are limited to one (1) pole and line device, with no more than two (2) hooks, which must measure at least ½-inch from hook tip to shank.

(4) Jug fishing in the closed portion of the refuge as shown on Map II, east of Wolf Creek Road is authorized from March 15 thru September 30. Jugs may be left in the lake overnight. Personnel are not authorized in the area during the hours of darkness. Jug fishing in the open portion of the refuge as shown on Map I, west of the boundary (Carterville Road) is authorized both day and night. Between May 26, 1975 and September 1, 1975 jug fishing is authorized from sunset to sunrise. Jugs must be removed from the lake at sunrise during this period. In the area from Wolf Creek Road west to the closed portion of the refuge boundary (Carterville Road) jug fishing is permitted from January 1, 1975 thru December 31, 1975.

(5) Floating trot lines are not allowed in the open portion of the refuge west of the boundary (Carterville Road) during the hours of daylight from May 26, 1975 thru September 1, 1975.

(6) Fishing in designated ponds in the closed portion of the refuge is authorized from March 15, 1975 thru September 30, 1975 during daylight hours only.

The provisions of this special regulation supplement the regulations which govern fishing on wildlife refuge areas generally which are set forth in 50 CFR Part 33, and are effective through December 31, 1975.

WAYNE D. ADAMS,
Project Manager, Crab Orchard National Wildlife Refuge, Carterville, Ill.

FEBRUARY 19, 1975.

[FR Doc.75-5336 Filed 2-26-75;8:45 am]

EO<

Title 40—Protection of Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

SUBCHAPTER B—GRANTS

PART 35—STATE AND LOCAL ASSISTANCE

Final Construction Grant Regulations

Correction

In FR Doc. 74-3267, appearing at page 5252 of the issue of Monday, February 11, 1974, the following corrections should be made:

1. The allotment tables on pages 5256 and 5257 were published incorrectly and are reprinted in part below.

The table appearing in § 35.910-3(b) on page 5256 should read as follows:

State	*Percentage*	*State*	*Percentage*
Alabama	0.5612	North Carolina	.9229
Alaska	.2353	North Dakota	.0467
Arizona	.1346	Ohio	5.7737
Arkansas	.3536	Oklahoma	.4906
California	9.8176	Oregon	.8494
Colorado	.3166	Pennsylvania	5.4214
Connecticut	1.6810	Rhode Island	.4689
District of Columbia	.7114	South Carolina	.5455
Delaware	.6565	South Dakota	.0949
Florida	3.6264	Tennessee	1.1605
Georgia	.9730	Texas	2.7694
Hawaii	.3303	Utah	.4068
Idaho	.3177	Vermont	.2318
Illinois	6.2489	Virginia	2.9143
Indiana	3.3662	Washington	.8906
Iowa	1.1857	West Virginia	.4999
Kansas	.3742	Wisconsin	1.7415
Kentucky	.6899	Wyoming	.0263
Louisiana	.9436	Guam	.0872
Maine	0.9675	Puerto Rico	.5845
Maryland	4.2562	Virgin Islands	.0803
Massachusetts	3.7876	American Samoa	.0048
Michigan	7.9814	Trust Territory of Pacific Islands	.0378
Minnesota	3.0810		
Mississippi	.3035		100.0000
Missouri	1.6896		
Montana	.1662		
Nebraska	.3708		
Nevada	.2877		
New Hampshire	.5309		
New Jersey	7.7040		
New Mexico	.2108		
New York	11.0878		

The table appearing in § 35.910–3(c) on page 5257 should read as follows:

State	Fiscal year 1975	Fiscal year 1974
Alabama	[illegible]	[illegible]
Alaska	[illegible]	[illegible]
Arizona	[illegible]	[illegible]
Arkansas	[illegible]	[illegible]
California	[illegible]	[illegible]
Colorado	[illegible]	[illegible]
Connecticut	[illegible]	[illegible]
Delaware	[illegible]	[illegible]
District of Columbia	[illegible]	[illegible]
Florida	[illegible]	[illegible]
Georgia	[illegible]	[illegible]
Hawaii	[illegible]	[illegible]
Idaho	[illegible]	[illegible]
Illinois	[illegible]	[illegible]
Indiana	[illegible]	[illegible]
Iowa	[illegible]	[illegible]
Kansas	[illegible]	[illegible]
Kentucky	[illegible]	[illegible]
Louisiana	[illegible]	[illegible]
Maine	[illegible]	[illegible]
Maryland	[illegible]	[illegible]
Massachusetts	[illegible]	[illegible]
Michigan	[illegible]	[illegible]
Minnesota	[illegible]	[illegible]
Mississippi	[illegible]	[illegible]
Missouri	[illegible]	[illegible]
Montana	[illegible]	[illegible]
Nebraska	[illegible]	[illegible]
Nevada	[illegible]	[illegible]
New Hampshire	[illegible]	[illegible]
New Jersey	[illegible]	[illegible]
New Mexico	[illegible]	[illegible]
New York	[illegible]	[illegible]
North Carolina	[illegible]	[illegible]
North Dakota	[illegible]	[illegible]
Ohio	[illegible]	[illegible]
Oklahoma	[illegible]	[illegible]
Oregon	[illegible]	[illegible]
Pennsylvania	[illegible]	[illegible]
Rhode Island	[illegible]	[illegible]
South Carolina	[illegible]	[illegible]
South Dakota	[illegible]	[illegible]
Tennessee	[illegible]	[illegible]
Texas	[illegible]	[illegible]
Utah	[illegible]	[illegible]
Vermont	[illegible]	[illegible]
Virginia	[illegible]	[illegible]
Washington	[illegible]	[illegible]
West Virginia	[illegible]	[illegible]
Wisconsin	[illegible]	[illegible]
Wyoming	[illegible]	[illegible]
Guam	[illegible]	[illegible]
Puerto Rico	[illegible]	[illegible]
Virgin Islands	[illegible]	[illegible]
American Samoa	[illegible]	[illegible]
Trust Territory of Pacific Islands	754,800	1,134,000
Total	[illegible]	[illegible]

The first table in column 1 on page 5257 should read:

State	Percentage	State	Percentage
Illinois	6.4173	Pennsylvania	8.6852
Indiana	1.8196	Rhode Island	0.3806
Iowa	1.0012	South Carolina	1.4233
Kansas	1.0822	South Dakota	0.0907
Kentucky	1.6570	Tennessee	1.2903
Louisiana	0.7245	Texas	1.6694
Maine	0.3670	Utah	0.4017
Maryland	1.8767	Vermont	0.3001
Massachusetts	2.2945	Virginia	2.5096
Michigan	4.7978	Washington	1.0463
Minnesota	1.6341	West Virginia	0.9939
Mississippi	0.5355	Wisconsin	1.8317
Missouri	1.8980	Wyoming	0.0788
Montana	0.1481	Guam	0.0478
Nebraska	0.8314	Puerto Rico	1.0388
Nevada	0.4785	Virgin Islands	0.0706
New Hampshire	0.3930	American Samoa	0.0147
New Jersey	8.4769	Trust Territory of the Pacific Islands	0.0133
New Mexico	0.1880		
New York	12.4793		
North Carolina	1.7929		
North Dakota	0.0818		
Ohio	4.9184		
Oklahoma	1.1983		
Oregon	0.8683		

The second table in column 1 on page 5257 should read:

Alabama	883,785,150
Alaska	15,089,100
Arizona	17,[illegible]
Arkansas	29,990,100
California	497,[illegible]
Colorado	30,990,900
Connecticut	69,[illegible]
Delaware	21,815,900
District of Columbia	38,283,900
Florida	164,496,400
Georgia	76,183,000
Hawaii	41,140,000
Idaho	7,[illegible]
Illinois	352,911,700
Indiana	83,678,100
Iowa	39,884,900
Kansas	40,192,500
Kentucky	65,183,600
Louisiana	35,551,850
Maine	28,227,000
Maryland	64,198,100
Massachusetts	90,218,900
Michigan	188,687,400
Minnesota	64,347,900
Mississippi	23,868,700
Missouri	74,848,400
Montana	7,534,600
Nebraska	30,894,000
Nevada	18,808,600
New Hampshire	35,073,950
New Jersey	284,696,200
New Mexico	10,670,500
New York	490,684,200
North Carolina	70,494,200
North Dakota	6,876,100
Ohio	193,878,700
Oklahoma	46,997,400
Oregon	34,138,700
Pennsylvania	232,764,100
Rhode Island	90,864,000
South Carolina	89,922,000
South Dakota	7,308,900
Tennessee	48,871,800
Texas	108,900,250
Utah	16,579,600
Vermont	11,800,500
Virginia	98,972,400
Washington	94,730,500

2. In the fifth line of the table in column 3 on page 5257, the figure now reading "40,892,900" should read "40,832,900".

3. In column 1 on page 5260, the first word in the second to last line of § 35.-917–7, now reading "agreement", should be replaced by the letters "agement".

4. In column 3 on page 5266, the first paragraph (a) should be preceded by the following section heading:

§ 35.935–12 Operation and maintenance.

5. In column 1 on page 5266, the last word in the fourth line, now reading "precise", should read "service".

6. In column 2 on page 5267, the first complete word in the second line of paragraph (g) should read "authorized".

ENVIRONMENTAL PROTECTION AGENCY

[40 CFR Parts 33, 35]

[FRL 366 7]

MINIMUM STANDARDS FOR PROCUREMENT UNDER EPA GRANTS

Subagreements

Notice is hereby given that the Environmental Protection Agency proposes to amend its general grant regulations to incorporate minimum standards for procurement under grants and to amend its State and local assistance grant regulations to incorporate policies and procedures governing procurement of personal and professional services under grants for construction of treatment works.

On August 7, 1973, the Environmental Protection Agency published proposed amendments to Part 30 (38 FR 21342), implementing certain portions of Office of Management and Budget Circular A-102 (now General Services Administration Federal Management Circular 74-7). Interim general grant regulations for all EPA grants (Part 30) had been published in the FEDERAL REGISTER on November 27, 1971 (36 FR 22716). Both these documents contained policies and procedures governing procurement by grantees under grants awarded by EPA. Deleted from Part 30 which was published as final rules on May 8, 1975, were the policies and procedures governing procurement by grantees. Those policies and procedures have been expanded and are here being proposed as Part 33, Subagreements. Part 33 does not apply to subagreements under grants for construction of treatment works.

Part 35 (State and Local Assistance) already includes regulations governing construction contracts under grants for construction of treatment works (§ 35.938). A new section (§ 35.937), Contracts for personal and professional services, is now being proposed and contains provisions similar to those in Part 33 governing negotiated procurements. The principal new provisions are limited to the first eight subsections. In addition, minor changes to §§ 35.938 and 35.939 necessitated by the proposal of § 35.937 are also being proposed.

It would have been possible to considerably reduce the volume of the amendments to Part 35 by utilizing extensive cross referencing to Part 33. However, we believe that State and local governments and consulting engineers can be better assured of meeting all applicable requirements for construction grants if such requirements were located in a single Part of the regulations.

Part 33 defines minimum standards as guidance to grantees concerning a satisfactory procurement system. Specific areas of guidance include standards of conduct, grantor grantee responsibilities, subagreement approval requirements, procurement by formal advertising, procurement by negotiation (including negotiation authorizations, competition requirements, price, cost and profit considerations, contract award, architectural or engineering services, small purchases), required contract provisions and protests against award. Part 33 and § 35.937 further provide that a contract shall not be awarded on a cost-plus-a-percentage-of-cost or a percentage-of-construction-cost basis.

Interested parties and government agencies are encouraged to submit written comments, views, or data to the Director, Grants Administration Division, Environmental Protection Agency, Washington, D.C. 20460. All such submissions received on or before June 9, 1975 will be considered prior to the promulgation of final regulations.

It is therefore proposed to add Part 33 and amend Part 35 of Title 40, Code of Federal Regulations, in the manner set forth below.

Dated: May 2, 1975.

JOHN QUARLES,
Acting Administrator.

Chapter I of Title 40 of the Code of Federal Regulations is proposed to be amended by adding a new Part 33, reading as follows:

PART 33—SUBAGREEMENTS

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33.625-5 Employment practices.
33.625-6 Patents; data; copyrights.
33.625-7 Notice and assistance regarding patent and copyright infringement.
33.625-8 Records.
33.625-9 Access.
33.625-10 Executive Order 11738.
33.625-11 Contingent fees.
33.650 Requirements applicable to construction.
33.650-1 Bonding and insurance.
33.650-2 Contract Work Hours and Safety Standards Act.
33.650-3 Davis-Bacon and related statutes.
33.650-4 Copeland Act.
33.650-5 Equal employment opportunity.

Subpart G—Protests Against Award

33.700 Grantee responsibility.
33.705 EPA responsibility.
33.710 Time limitations.
33.715 Deferral of procurement action.
33.720 Extensions of time.
33.725 Enforcement.

AUTHORITY: The provisions of this Part 33 are issued under the authorities cited in § 30.101.

§ 33.001 Applicability and scope.

(a) This part sets forth policies and minimum standards for procurement systems of grantees under EPA grants, except that procurement under grants for construction of treatment works is covered by §§ 35.937, 35.938 and 35.939 of this Subchapter. The provisions of this Part 33 constitute a part of the EPA general grant regulations and procedures codified as Part 30 of this title.

(b) A subagreement is a written agreement between a grantee and a third party and any tier of agreement thereunder for the furnishing of services, supplies, or equipment necessary to complete the project for which a grant was awarded, including contracts for personal and professional services and purchase orders.

§ 33.005 Definitions.

All terms used in this Part which are not defined herein shall have the meaning given to them in § 30.135 of this Subchapter.

Subpart A—Policy

§ 33.100 Grantee procurement systems.

Grantees may use their own procurement systems provided that procurements made under an EPA grant adhere to the minimum standards set forth in this Part.

§ 33.105 Competition.

It is the policy of the Environmental Protection Agency to encourage free and open competition for project work performed by contract.

§ 33.110 Profits.

Only fair and reasonable profits may be earned by contractors in subagreements under EPA grants. See § 33.510-5 for discussion of profits under subagreements.

§ 33.115 Type of contract.

Grantees shall utilize fixed price subagreements whenever possible. The cost reimbursement types of contract (e.g., cost-plus-fixed-fee, cost-plus-incentive-fee, etc.) may be utilized if the cost of contract performance cannot be adequately estimated for fixed price purposes. However, the cost-plus-a-percentage-of-cost and the percentage-of-construction-cost types of contract shall not be used for any grantee procurement (see §§ 33.405, 33.505). Each cost reimbursement contract must clearly establish a cost ceiling which the contractor may not exceed without formally amending the contract.

§ 33.120 Grantee responsibility.

The grantee is responsible for the administration and successful accomplishment of the project for which EPA grant assistance is awarded. The grantee is responsible for the settlement and satisfaction of all contractural and administrative issues arising out of subagreements entered into under the grant (except as provided in § 33.125 below). This includes (but is not limited to) issuance of invitations for bids or requests for proposals, selection of contractors, award of contracts, protests of award, claims, disputes, and other related procurement matters.

§ 33.125 EPA responsibility.

Generally, EPA is responsible only for reviewing grantee compliance with Federal requirements applicable to a grantee's procurement (see § 33.120). However, where specifically provided in this Part, EPA is responsible for making the determination concerning compliance with Federal requirements.

§ 33.130 Small and minority business.

Positive efforts shall be made by grantees to utilize small business and minority-owned business sources of supplies and services. Such efforts should allow these sources the maximum feasible opportunity to compete for contracts to be performed utilizing Federal grant funds.

§ 33.135 Privity of contract.

Neither the Environmental Protection Agency nor the United States shall be a party to any subagreement (including contracts or subcontracts) of a grantee, or to any solicitation or request for proposals therefor (see §§ 33.615 and 33.625-1 for the required solicitation statement and contract provision).

§ 33.140 Disputes.

Only an EPA grantee may initiate and prosecute an appeal under the disputes provision of a grant with respect to its subagreements thereunder for its own name and benefit (see Subpart J of Part 30 of this Subchapter). Neither a contractor nor a subcontractor of a grantee may prosecute an appeal under the disputes provisions of a grant in its own name or interest.

Subpart B—General

§ 33.200 Federal procurement regulations.

Requirements applicable to direct Federal contracts shall not be applicable to subagreements under grants except to the extent that those or similar requirements may be stated in this Subchapter.

§ 33.205 General requirements.

Subagreements must comply with the following general requirements:

(a) Must be necessary for and directly related to the accomplishment of the project work (grantees shall avoid purchasing unnecessary or duplicative items);

(b) Must be in the form of a bilaterally executed written agreement (except for small purchases);

(c) Must be for monetary or in-kind consideration; and

(d) May not be in the nature of a grant or gift.

§ 33.210 Documentation.

(a) Procurement records and files for purchases in excess of $10,000 shall include the following:

(1) Basis for contractor selection;

(2) Justification for lack of competition when competitive bids or offers are not obtained;

(3) Basis for award cost or price.

(b) Procurement documentation required by § 30.805 (Records) of this Subchapter and this Part 33, including a copy of each subagreement, must be retained by the grantee or contractors of the grantee for the period of time specified in § 30.805 and is subject to all the requirements of § 30.805. A copy of each subagreement must be furnished to the Project Officer upon request.

§ 33.215 State and local law.

(a) Where project work is accomplished through subagreements, such subagreements shall be governed by the applicable requirements of State, territorial, and local laws and ordinances, and the procurement system or procedures of the grantee (including institutional requirements), to the extent that such requirements do not conflict with Federal laws and meet the minimum standards of this Part 33.

(b) State or local laws, ordinances, regulations or procedures which are designed or operated to give local or in-State bidders or proposers preference over other bidders or proposers shall not be employed in evaluating bids or proposals for subagreements under a grant.

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§ 33.220 Required approvals.

(a) A grantee must secure prior written approval of the Project Officer for the following procurement actions:

(1) All subagreements in excess of $100,000, each amendment to a subagreement in excess of $100,000, and the cost/price analyses of negotiated subagreements in excess of $100,000 (see § 33.510-4 for discussion of price and cost considerations);

(2) Utilization of the force account method in lieu of subagreement for any construction activity in excess of $10,000 unless the force account method is stipulated in the grant agreement (as provided in § 30.645 of this Subchapter).

(b) In granting written approval, the Project Officer must assure that the proposed procurement complies with EPA policies set forth in this Part, including the policy regarding free and open competition.

§ 33.225 Limitations on contract award.

The grantee shall not award any contract and the Project Officer may not approve award of any contract:

(a) To any person or organization which does not meet the responsibility standards set forth in § 30.340-2 of this Subchapter;

(b) If any portion of the contract work will be performed at a facility listed by the Director, EPA Office of Federal Activities, in violation of the antipollution requirements of the Clean Air Act and the Federal Water Pollution Control Act, as set forth in § 30.420-3 of this Subchapter and 40 CFR Part 15;

(c) To any person or organization which is ineligible pursuant to the conflict of interest requirements of § 30.420-4 of this Subchapter.

§ 33.230 Project changes.

A contractor must notify the grantee of all proposed project changes. Certain changes require notification to the Project Officer by the grantee pursuant to § 30.900 of this Subchapter. A contractor may not implement any project changes without the prior approval of the grantee. In granting such approvals, the grantee shall ensure compliance with the procedures for the approval and funding of project changes pursuant to §§ 30.900-1 through 30.900-4, and all related prior approval requirements such as those set forth in 40 CFR 40.145(b).

§ 33.235 Eligible costs.

Costs incurred under subagreements which are not awarded or administered in compliance with this Part 33 shall not be eligible costs.

Subpart C— Code or Standards of Conduct

§ 33.300 Grantee responsibility.

(a) The grantee must maintain a code or standards of conduct which shall govern the performance of its officers, employees, or agents in the conduct of project work, including procurement and the expending of project funds. As a minimum, the grantee must exert diligent effort to ensure that its officers, employees or agents shall neither solicit nor accept gratuities, favors or anything of monetary value from contractors or potential contractors. The grantee must avoid personal or organizational conflicts of interest or noncompetitive procurement practices which restrict or eliminate competition or otherwise restrain trade.

(b) To the extent permissible by State or local law or formal institutional requirements and procedures, the grantee must ensure that penalties, sanctions, or other adequate disciplinary actions are applied for project-related violations of law or of such code or standards of conduct by either the grantee officers, employees, or agents, or by contractors or their agents.

(c) The grantee must inform the Project Officer in writing of each violation of law or code or standards of conduct by its officers, employees, contractors, or by their agents, and of the prosecutive or disciplinary action taken by the grantee with respect to such infractions, and must cooperate with Federal officials with respect to any Federal prosecutive or disciplinary actions instituted with respect to such infractions.

§ 33.310 EPA responsibility.

EPA shall cooperate with the grantee with respect to its disciplinary or prosecutive actions taken with respect to any apparent project-related violations of law or of the grantee's code or standards of conduct.

§ 33.315 Fraud and other unlawful or corrupt practices.

All procurements under grants are covered by the provisions of § 30.245 of this Subchapter relating to fraud and other unlawful or corrupt practices.

Subpart D—Procurement by Formal Advertising

§ 33.400 Applicability.

This Subpart is applicable to all procurement by formal advertising. Formal advertising means procurement by competitive bids and awards as described below and shall be the required method of procurement unless negotiation pursuant to Subpart E is necessary to accomplish sound procurement.

§ 33.405 Type of contract.

Each formally advertised subagreement must be a fixed price (lump sum or unit price or a combination of the two) contract.

§ 33.410 Procedures.

Formal advertising shall be conducted in accordance with the following procedures.

§ 33.410-1 Adequate public notice and solicitation of bids.

The grantee will cause adequate public notice to be given of the solicitation by publication in newspapers or journals of general circulation beyond the grantee's locality (Statewide, generally), inviting bids and stating the method by which bidding documents may be obtained and, or examined.

§ 33.410-2 Adequate time for preparing bids.

Adequate time, generally not less than 30 days, must be allowed between the date when public notice pursuant to § 33.410-1 is first published and the date by which bids must be submitted.

§ 33.410-3 Adequate bidding documents.

A reasonable number of bidding documents (invitations for bid) shall be prepared by the grantee and shall be furnished upon request on a first-come, first-serve basis. A complete set of bidding documents shall be maintained by the grantee and shall be available for inspection and copying by any party. Such bidding documents shall include:

(a) A complete statement of work to be performed, including drawings and specifications, where appropriate, and the required completion schedule (drawings and specifications may be made available for inspection instead of being furnished);

(b) The terms and conditions of the contract to be awarded, including, where appropriate, payment, delivery schedules, point of delivery, and acceptance criteria;

(c) A clear explanation of the method of bidding and the method of evaluation of bid prices, and the basis and method for award of the contract;

(d) Responsibility requirements or criteria which will be employed in evaluating bidders (however, responsibility requirements should not unreasonably restrict competition);

(e) The solicitation statement required pursuant to § 33.615 of this Part;

(f) The prevailing wage determination required pursuant to § 33.650-3 of this Part, if applicable; and

(g) A copy of Subparts D (Procurement by Formal Advertising), F (Required Provisions) and G (Protests Against Award) of this Part.

§ 33.410-4 Nonrestrictive specifications.

Invitations for bids shall include a clear and accurate description of the technical requirements for the material, product, or service to be procured. Such description shall not contain features which unduly restrict competition. "Brand name or equal" description may be used as a means to define the performance or other salient requirements of a procurement, and when so used, the specific features of the named brand which must be met by offerors should be clearly specified.

(NOTE: Section 204 of the Federal Water Pollution Control Act contains a more stringent requirement regarding nonrestrictive specifications which is applicable only to grants for construction of treatment works. See § 35.935-2 of this Subchapter.)

§ 33.410-5 Bid guarantee.

For construction contracts exceeding $100,000, each bidder must furnish a bid guarantee equivalent to five percent of the bid price. For all other contracts, the grantee shall require such guarantees

as it normally requires in its own procurement.

§ 33.410–6 Sealed bids.

The grantee shall provide for bidding by sealed bid and for the safeguarding of bids received until public opening.

§ 33.410–7 Amendments to bidding documents.

If a grantee desires to amend any part of the bidding documents (including drawings and specifications) during the period when bids are being prepared, the amendments shall be communicated in writing to all firms who have obtained bidding documents in time to be considered prior to the bid opening time. When appropriate, the period for submission of bids shall be extended.

§ 33.410–8 Bid modifications.

A firm which has submitted a bid shall be allowed to modify or withdraw its bid prior to the time of bid opening.

§ 33.410–9 Public opening of bids.

The grantee shall provide for a public opening of bids at the place, date and time announced in the bidding documents.

§ 33.410–10 Award to the low, responsive, responsible bidder.

(a) After bids are opened, they shall be evaluated by the grantee in accordance with the methods and criteria set forth in the bidding documents.

(b) Unless all bids are rejected, award shall be made to the low, responsive, responsible bidder within the time specified in the invitation for bid or any extension of time granted.

(c) If award is intended to be made to a firm which did not submit the lowest bid, a written statement shall be prepared prior to any award and retained by the grantee explaining why each lower bidder was deemed not responsive or nonresponsible.

(d) If the proposed award requires EPA Project Officer approval, the subagreement shall not be executed until approval has been obtained (in accordance with § 33.220).

Subpart E—Procurement by Negotiation

§ 33.500 Applicability.

This subpart provides minimum standards for grantee negotiation of subagreements (i.e., award of contracts by any method other than procurement by formal advertising) which are applicable to all negotiated subagreements in excess of $10,000.

§ 33.502 Authorization

Negotiation of subagreements by the grantee is authorized if it is impracticable and infeasible to use formal advertising. All negotiated procurement shall be conducted in a manner to provide to the maximum practicable extent open and free competition. Generally, procurements may be negotiated by the grantee if any of the following conditions are applicable:

(a) Public exigency will not permit the delay incident to formally advertised procurement (e.g., an emergency procurement).

(b) The aggregate amount involved does not exceed $10,000 (see § 33.520 for small purchases).

(c) The material or service to be procured is available from only one person or entity. If the procurement is expected to aggregate more than $10,000, the grantee must document its file with a justification of the need for noncompetitive procurement, and provide such documentation to the Project Officer on request.

(d) The procurement is for personal or professional services or for any service to be rendered by a university or other educational institution.

(e) No responsive, responsible bids at acceptable price levels have been received after formal advertising.

(f) The procurement is for material or services where the prices are established by law.

(g) The procurement is for technical items or equipment requiring standardization and interchangeability of parts with existing equipment, or for technical or specialized supplies requiring substantial initial investment to manufacture.

(h) The procurement is for experimental, developmental or research services.

§ 33.505 Type of contract.

The preferred type of negotiated contract is the fixed price type. However, the cost reimbursement types of contract (e.g., cost-plus-fixed-fee, cost-plus-incentive-fee, etc.) may be utilized if the cost of contract performance cannot be adequately estimated for fixed price purposes. The cost-plus-percentage-of-cost (including salary multiplier) and the percentage-of-construction-cost types of contract may not be utilized. Each cost reimbursement contract must clearly establish a cost ceiling which the contractor may not exceed without formally amending the contract.

§ 33.510 Procedures.

§ 33.510–1 Adequate public notice and requests for proposals.

(a) Adequate public notice must be given of the request for proposals for negotiated procurements anticipated to exceed $10,000 except where rates or prices are fixed by law or regulation or where a single source has been justified (see § 33.502(c)). Such notice of the request for proposals should be published in professional journals, newspapers, or publications of general circulation beyond the grantee's locality (Statewide, generally), and through posted public notices, or written notification directed to interested persons, firms, or professional organizations inviting proposals and stating the method by which request for proposal documents may be obtained or examined. Sources which request an opportunity to submit proposals, and which are not otherwise barred by law or regulation, shall be promptly furnished a copy of the request for proposal and shall be permitted to submit a proposal in response thereto.

(b) Requests for proposals must be in writing and must contain the information necessary to enable a prospective offeror to prepare a proposal properly. The request for proposals must inform offerors of all evaluation factors (in accordance with §§ 33.510–3 and 33.515(b)) and of the relative importance attached to each criterion (a numerical weighted formula need not be utilized).

(c) The request for proposal must clearly state the time and place for submission of proposals and must include a copy of Subparts E (Procurement by Negotiation), F (Required Provisions) and G (Protests Against Award) of this part.

§ 33.510–2 Submission of proposals.

All proposals must be supported by appropriate documentation to support the reasonableness of estimated costs or evidence of reasonable prices and other necessary matters.

§ 33.510–3 Evaluation factors.

A documented evaluation of proposals must be made solely on the basis of the technical and other evaluation criteria announced in the request for proposals and, as appropriate, the evaluation factors set forth below:

(a) The quality of the items or work, or of the same or similar items or work previously procured, with particular regard to the satisfaction of minimum project needs;

(b) Specialized experience and technical competence of key personnel who perform the work;

(c) Prices quoted, and consideration of other prices for the same or similar items or work (see § 33.5104 below);

(d) The business reputations, capabilities, responsibilities and past performance of the respective persons or firms who submit proposals;

(e) Delivery requirements;

(f) Capacity to perform work within required time limits;

(g) Contractor awareness of social, economic and geographic factors relevant to the project;

(h) The nature and extent of subcontracting;

(i) The existing and potential workload of the prospective contractor;

(j) The desirability of distributing procurement equitably among qualified firms;

(k) Requirements for the avoidance of personal and organizational conflicts of interest (as set forth in 40 CFR 30.410–4); and

(l) Capability to explore and develop innovative or advanced techniques or designs.

§ 33.510–4 Price and cost considerations.

(a) *General.* It is the policy of EPA that the cost or price of all subagreements must be considered. However, the grantee shall perform a formal cost or price analysis and prepare a written summary of findings for all negotiated subagreements in excess of $100,000 prior to execution of the subagreement. Project

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Officer approval of the analysis is required prior to the execution of any negotiated subagreement in excess of $100,000 by the grantee (in accordance with § 33.220).

(b) *Price analysis.* Price analysis is the process of evaluating a prospective price without regard to the contractor's separate cost elements and proposed profit. Price analysis is used when the goods or services required lend themselves to price comparison and may be accomplished in various ways including the following:

(1) The comparison of the price quotations submitted;

(2) The comparison of prior quotations and contract prices with current quotations for the same or similar end items;

(3) The comparison of prices set forth in published price lists issued on a competitive basis, published market price commodities, and similar indicia, together with discount or rebate arrangements;

(4) The comparison of proposed prices with estimates of cost independently developed by personnel within the activity; or

(5) The comparison of ratios (dollars per square foot, per hour, per drawing, and so forth) to highlight major deviations from past buys.

(c) *Cost analysis.* (1) In those cases where there is less than adequate price competition, such as in single source procurement or in procurements where technical competition is the principal, selection factor, a detailed analysis of the selectee's cost estimate and backup cost or pricing data is required as a substitute for price comparison.

(2) Cost analysis includes the appropriate verification of cost data, the evaluation of specific elements of costs, and the projection of these data to determine the effect on prices of such factors as:

(i) The necessity for certain costs;

(ii) The reasonableness of amounts estimated for the necessary costs;

(iii) Allowances for contingencies;

(iv) The basis used for allocation of overhead costs; and

(v) The appropriateness of allocations of particular overhead costs to the proposed contract.

(3) Appropriate consideration should be given to 40 CFR Part 30 Subpart F, which contains general cost principles and procedures for the determination and allowability of costs under grants.

(4) Among the evaluations that should be made where the necessary data are available are comparisons of a contractor's or offeror's current estimated costs with:

(i) Actual costs previously incurred by the contractor or offeror;

(ii) The contractor's or offeror's last prior cost estimate for the same or a similar item with a series of his prior estimates;

(iii) Current cost estimates from other possible sources; and

(iv) Prior estimates of historical costs of other contractors manufacturing the same or similar items.

(5) Forecasting future trends in costs from historical cost experience is of primary importance. An adequate cost analysis must include consideration of future trends in costs when reasonably determinable.

(6) In addition to the elements of cost, the amount of profit shall be set forth separately in the cost analysis.

§ 33.510–5 Profit.

It is the policy of EPA that profit—i.e., the net proceeds obtained by deducting all eligible elements of cost (direct and indirect) from the price—on a subagreement and each amendment to a subagreement under a grant be sufficient to attract contractors who possess talents and skills necessary to the accomplishment of project objectives, and to stimulate efficient and expeditious completion of the project. Where effective price competition is lacking, or where cost analysis is performed, the estimate of profit should be analyzed as are all other elements of price. The objective of negotiations shall be the exercise of sound business judgment including a fair and reasonable profit based on the firm's assumption of risk and input to total performance and not merely the application of a predetermined percentage factor. For example, the ratio of profit to cost should normally be less for amendments and change orders than for initial contract agreements.

§ 33.510–6 Negotiation.

(a) Written or oral interviews should be conducted with all responsible offerors who submit proposals within a competitive range, price and other factors considered (except as provided in § 33.515(c) for architectural or engineering services).

(b) Each proposer with whom negotiations are conducted shall be given reasonable opportunity (with a common cut-off date) to support, clarify, correct, improve, or revise its proposal.

(c) Information shall not be conveyed to one or more proposers which would give them a competitive advantage.

§ 33.510–7 Award of contract.

(a) After the close of negotiations, the grantee shall award the contract to the proposer whose proposal offers the greatest advantage for the project—technical, economic and other factors considered.

(b) An unsuccessful offeror shall be notified at the earliest practicable time that its offer has not been selected for award.

(c) Upon written request of an unsuccessful offeror, the grantee shall disclose the reason(s) for rejection.

(d) The grantee must develop and retain adequate records of the basis for selection for negotiation and award.

(e) The grantee shall secure the written approval of the Project Officer of all subagreements in excess of $100,000 and their cost analyses prior to execution of the subagreements.

§ 33.515 Procurement of architectural or engineering services.

(a) Architectural or engineering services are those professional services associated with research, development, design and construction, alteration, or repair of real property, as well as incidental services that members of these professions and those in their employ may logically or justifiably perform, including studies, investigations, surveys, evaluations, consultations, planning, programming, conceptual designs, plans and specifications, cost estimates, inspections, shop drawing reviews, sample recommendations, preparation of operation and maintenance manuals, and other related services.

(b) Candidates will be evaluated on the basis of competence and qualification for the type of service required.

(c) Not less than three candidates must be selected and ranked for negotiation of contracts, unless after good faith effort to solicit proposals in accordance with § 33.510–1 of this Part, three or fewer qualified candidates respond, in which case all qualified candidates must be selected and ranked for negotiation. The ranking should be accomplished by an objective process, such as the appointment of a board or committee which includes technical experts. Oral or written interviews should be conducted with proposers and information derived therefrom shall be treated on a confidential basis, except as required to be disclosed to EPA pursuant to § 33.510–4 (Cost and price considerations).

§ 33.520 Small purchases.

(a) A small purchase is the procurement of materials, supplies, and services when the aggregate amount involved in any one transaction does not exceed $10,000. The small purchase limitation of $10,000 applies to the aggregate total of an order, including all estimated handling and freight charges, overhead, and profit to be paid under the order. In arriving at the aggregate amount involved in any one transaction, there must be included all items which should properly be grouped together.

(b) Small purchases shall be accomplished by negotiation, except when otherwise required by State or local law or where it is clearly in the best interest of the project to accomplish such purchases by more formal methods. Reasonable competition shall be obtained.

(c) Subagreements for small purchases need not be in the form of a bilaterally executed written agreement. Where appropriate, unilateral purchase orders, sales slips, memoranda of oral price quotations, and the like may be utilized in the interest of minimizing paperwork. Retention in the purchase files of written quotations received, or references to printed price lists used, will suffice as the record supporting the price paid.

Subpart F—Required Provisions

§ 33.600 General.

Each subagreement in excess of $10,000 must adequately define the scope of project work to be performed by the contractor for the grantee and must include adequate provisions to define a sound and complete agreement. All such

subagreements must include the applicable provisions set forth in §§ 33.625–1 through 33.625–10 and, in addition, contracts for construction of facility improvement must include the applicable provision of § 33.650–1 through 33.650–5.

§ 33.615 Required solicitation statement.

Bidding documents (invitations for bids), in the case of formally advertised procurements, or requests for proposals, or negotiated procurements, must include the following statement:

Any contract or contracts awarded under this (invitation for bids or request for proposals) are expected to be funded in part by a grant from the United States Environmental Protection Agency. This procurement will be subject to regulations contained in 40 CFR Subchapter B, and particularly Part 33 thereof. Neither the United States nor the United States Environmental Protection Agency is, nor will be, a party to this (invitation for bids or request for proposals) or any resulting contract.

§ 33.625 Required subagreement provisions.

§ 33.625–1 Privity of contract.

Each subagreement in excess of $10,000 must include the following or substantially similar provision:

This contract is funded in part by a grant from the U.S. Environmental Protection Agency. This contract is subject to regulations contained in 40 CFR Subchapter B and particularly Part 33 thereof. Neither the United States nor the U.S. Environmental Protection Agency is a party to this contract.

§ 33.625–2 Amendment.

Each subagreement in excess of $10,000 must contain adequate provision for amendment of work within the scope of the contract by the grantee.

§ 33.625–3 Termination; suspension.

Each subagreement in excess of $10,000 must contain adequate provisions for termination of all or any part of contract performance for default or for convenience by the grantee, or for suspension of all or any part of contract performance by agreement or by the grantee, including the manner by which the termination or suspension will be effected and the basis for settlement.

§ 33.625–4 Remedies.

Each subagreement in excess of $10,000 must contain adequate contractual provisions or conditions to allow for administrative, contractual, or legal remedies in instances where grantees or contractors violate or breach contract terms or conditions, and must provide for such damages, sanctions and penalties as may be appropriate.

§ 33.625–5 Employment practices.

Each subagreement in excess of $10,000 must contain a provision that the contractor shall not discriminate, directly or indirectly, on the grounds of race, color, religion, sex, age, or national origin in its employment practices under any project, program, or activity receiving assistance from EPA, and that the contractor shall take affirmative steps to ensure that applicants are employed and employees are treated during employment without regard to race, color, religion, sex, age, or national origin.

§ 33.625–6 Patents; data; copyrights.

(a) Each subagreement in excess of $10,000 shall contain a provision to the effect that the contractor is subject to the duties of the grantee relating to rights in data and copyrights contained in 40 CFR 30.530.

(b) Each subagreement in excess of $10,000 involving experimental, developmental, research or demonstration work shall contain a provision to the effect that the contractor is subject to the duties of the grantee relating to rights to inventions and patents contained in 40 CFR 30.515.

§ 33.625–7 Notice and assistance regarding patent and copyright infringement.

Each subagreement in excess of $10,000 must contain a clause substantially similar to that set forth in the grant agreement entitled "Notice and Assistance Regarding Patent and Copyright Infringement."

§ 33.625–8 Records.

Each subagreement in excess of $10,000 must contain a provision requiring the contractor to maintain records of contract performance as defined in § 30.805 of this Subchapter, and make these records available for inspection, audit and copying by the grantee, EPA, the Comptroller General of the United States, the Department of Labor, or any authorized representative, to the extent and for the same length of time as is set forth with respect to grantee records in § 30.805 of this Subchapter.

§ 33.625–9 Access.

Each subagreement in excess of $10,000 must contain a provision to ensure that the Project Officer and any authorized representative of EPA, the Comptroller General of the United States or the Department of Labor, shall at all reasonable times during the period of EPA grant support and until three years following final settlement have access to the facilities, premises and records (as defined in § 30.805) of the contractor related to the project. In addition, any person designated by the Project Officer shall have access, upon reasonable notice to the grantee by the Project Officer, to visit the facilities and premises related to the project.

§ 33.625–10 Executive Order 11738.

Each subagreement in excess of $100,000 must contain a provision whereby the contractor or subcontractor agrees to comply with all applicable regulations issued pursuant to Sec. 306 of the Clean Air Act or sec. 508 of the Federal Water Pollution Control Act (See 40 CFR Part 15 and 40 CFR 30.420–3).

§ 33.625–11 Contingent fees.

Each subagreement in excess of $10,000 shall contain a prohibition against contingent fees as follows:

The Contractor warrants that no person or company has been employed or retained to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, except bona fide employees; nor has the contractor paid or agreed to pay any person, company, corporation, individual or firm, other than a bona fide employee, any fee, commission, contribution, donation, percentage, gift, or any other consideration, contingent upon, or resulting from award of this contract. For any breach or violation of this provision, the Owner shall have the right to terminate this agreement without liability and, at his discretion, to deduct from the contract price, or otherwise recover, the full amount of such fee, commission, percentage, gift or consideration and any other damages, and shall be responsible for reporting the details of such breach or violation to the proper legal authorities, where and when appropriate.

§ 33.650 Requirements applicable to construction.

Where the subagreement is for construction, or for facility improvement or repair, it must also contain the following provisions, as applicable.

§ 33.650–1 Bonding and insurance.

(a) For each such contract in excess of $100,000, the contractor must furnish performance and payment bonds, each of which shall be in an amount not less than 100 percent of the contract price. (Each bidder for such contracts must furnish a bid guarantee equivalent to 5 percent of the bid price; see § 33.610–5.) Construction contracts of $100,000 or less shall be subject to State, local, and customary requirements relating to bid guarantees and performance and payment bonds.

(b) Contractors should obtain such construction insurance (e.g., fire and extended coverage, workmen's compensation, public liability and property damage, and "all risk" builders' risk) as is customary and appropriate.

§ 33.650–2 Contract Work Hours and Safety Standards Act.

Where applicable, all contracts awarded by grantees and subcontracts awarded by contractors of grantees in excess of $2,000 for construction contracts and in excess of $2,500 for other contracts which involve the employment of mechanics or laborers shall include a provision for compliance with sections 103 and 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 327–330), as supplemented by the Department of Labor regulations (29 CFR Part 5). Under sec. 103 of the Act, each contractor shall be required to compute the wages of every mechanic and laborer on the basis of a standard workday of 8 hours and a standard workweek of 40 hours. Work in excess of the standard workday or workweek is permissible provided that the worker is compensated at a rate of not less than 1½ times the basic rate of pay for all hours worked

in excess of 8 hours in any calendar day or 40 hours in the workweek. Section 107 of the Act is applicable to construction work and provides that no laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health and safety as determined under construction, safety, and health standards promulgated by the Secretary of Labor. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

§ 33.630–3 Davis-Bacon and related statutes.

When required by the Federal grant program legislation, all construction contracts awarded by grantees and all subcontracts awarded by contractors of grantees in excess of $2,000 shall include a provision for compliance with the Davis-Bacon Act (40 U.S.C. 276a et seq., 276c), as supplemented by Department of Labor regulations (29 CFR Part 5). Under this Act, contractors are required to pay wages to laborers and mechanics at a rate not less than the minimum wages specified in a wage determination made by the Secretary of Labor. In addition, contractors shall be required to pay wages not less often than once a week. The grantee must place a copy of the current prevailing wage determination issued by the Department of Labor in each solicitation and the award of a contract must be conditioned upon acceptance of the wage determination. All suspected or reported violations must be reported to the grantee and to the EPA Project Officer.

§ 33.630–4 Copeland Act.

All contracts and subcontracts for construction or repair shall include a provision for compliance with the Copeland "Anti-Kickback" Act (18 U.S.C. 874), as supplemented by Department of Labor regulations (29 CFR Part 3). This Act provides that each contractor or subcontractor shall be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he is otherwise entitled. All suspected or reported violations must be reported to the grantee and to the EPA Project Officer.

§ 33.630–5 Equal employment opportunity.

Each subagreement in excess of $10,000 must include provisions in compliance with Executive Order No. 11246 as amended by Executive Order No. 11375 and regulations issued thereunder (40 CFR Part 8).

Subpart G—Protests Against Award

§ 33.700 Grantee responsibility.

The grantee is responsible for conducting project procurement in accordance with applicable requirements of State, territorial, or local laws or ordinances, as well as the specific requirements of Federal law or this Part directly affecting the procurement, and for the initial resolution of complaints based upon alleged violations of these Federal requirements. If a written complaint is made to the EPA Project Officer concerning an alleged violation of Federal law or this Part concerning procurement by an EPA grantee, the complaint will be referred to the grantee for resolution. The grantee must promptly determine each such complaint upon its merits permitting the complaining party, as well as any other interested party who may be adversely affected, to state in writing or at a conference the basis for their views concerning the proposed procurement. The grantee must promptly furnish to the complaining party and to other affected parties (by certified mail, return receipt requested), a written summary of its determination, substantiated by a legal opinion (and accompanied by an engineering report, where construction is involved), providing a justification for its determination. See § 33.710 for applicable time limitations.

§ 33.705 EPA responsibility.

A party adversely affected by an adverse determination of a grantee made pursuant to § 33.700 concerning an alleged violation of a specific requirement of Federal law or this Part directly affecting a grantee's procurement may request the individual designated by the Administrator as the EPA Protest Officer to review such adverse determination, subject to the time limitation set forth in § 33.710. A copy of the written adverse determination and supporting justification shall be transmitted to the Project Officer with the request for review, together with a statement of the specific reasons why the proposed grantee procurement action would violate Federal requirements. The EPA Protest Officer will afford both the grantee and the complaining party, as well as any other interested party who may be adversely affected, an opportunity to present the basis for their views in writing or at a conference, and he shall promptly state in writing the basis for his determination of the protest. If the grantee proposes to award a formally advertised contract or to approve award of a specified sub-item under such a contract to a bidder other than the apparent low bidder, the grantee will bear the burden of proving that its determination concerning responsiveness of the low bid is in accordance with Federal law and this Subchapter. If the basis for the grantee's determination is a finding that the low bidder is not responsible, the grantee must establish and substantiate the basis for its determination and must establish that such determination has been made in good faith. The written determination by the EPA Protest Officer shall be promptly furnished to the grantee and to the complainant and shall be final as to Agency action except with respect to appeal rights of the grantee under the disputes provision of the grant (see Part 30, Subpart J of this Subchapter).

§ 33.710 Time limitations.

A written protest should be made pursuant to § 33.700 as early as possible during the procurement process. A protest against award of a contract by a grantee must be mailed (certified mail, return receipt requested) or delivered to the Project Officer as soon as possible, but in no event later than the fifth working day after receipt of notice of non-selection, or, if no notice is received, the fifth working day after the complainant first learns of the action it desires to protest. A protest against a post-award procurement action of a grantee must be mailed (certified mail, return receipt requested) or delivered to the Project Officer as soon as possible, but in no event later than the fifth working day after the procurement action is taken by the grantee or the fifth working day after the complainant first learns of the action it desires to protest, whichever occurs later. A request for review by the EPA Protest Officer pursuant to § 33.705 must be received by the Project Officer within five working days after the complaining party received the grantee's adverse determination.

§ 33.715 Deferral of procurement actions.

Where the grantee has received a written complaint pursuant to § 33.700, it must defer the protested procurement action (for example, defer its issuance of solicitation, bid opening date, contract award or notice to proceed under the contract) for ten days after mailing or delivery of any written adverse determination. Where the Project Officer has received a written protest pursuant to § 33.705, he must notify the grantee promptly and the grantee must defer its protested procurement action until after it receives the determination by the EPA Protest Officer. If a determination is made by either the grantee or the EPA Protest Officer which is favorable to the complainant, the grantee's procurement action (for example, contract award) must be taken in accordance with such determination.

§ 33.720 Extensions of time.

The filing of a protest by a bidder shall constitute an extension of the period for acceptance of his bid and his bid bond(s), if any, until 10 working days after final determination of his protest. The grantee must seek to obtain similar extensions from other affected bidders.

§ 33.725 Enforcement.

Noncompliance with the provisions of this Subpart affecting procurement may result in (a) total or partial termination of the grant pursuant to § 30.815 of this Subchapter, (b) ineligibility for grant assistance which could otherwise be awarded under this Subchapter, or (c) disallowance of project costs incurred in violation of the provisions of this Subpart or applicable Federal laws, as determined by the Protest Officer. The

grantee may appeal adverse determinations by the EPA Project Officer in accordance with the disputes provisions of this Subchapter (see 40 CFR Part 30 Subpart J).

Part 35 of Title 40 of the Code of Federal Regulations is proposed to be amended by deleting §§ 35.938 through 35.939 and adding new §§ 35.937 through 35.939, which sections shall read as follows:

Sec.

35.937	Contracts for personal and professional services.
35.937-1	Type of contract.
35.937-2	Public announcement.
35.937-3	Evaluation criteria.
35.937-4	Ranking and selection of candidates for architectural or engineering services.
35.937-5	Negotiation.
35.937-6	Price and cost considerations.
35.937-7	Profit.
35.937-8	Award of contract.
35.937-9	Required solicitation and subagreement provisions.
35.937-10	Subagreement payments—professional services.
35.937-11	Applicability to existing contracts.
35.938	Construction contracts of grantees.
35.938-1	Applicability.
35.938-2	Performance by contract.
35.938-3	Type of contract.
35.938-4	Formal advertising.
35.938-5	Negotiation of contract amendments.
35.938-6	Subagreement payments — construction, materials and equipment.
35.939	General procurement requirements.
35.939-1	Negotiation of subagreements.
35.939-2	Code or standards of conduct.
35.939-3	Small purchases.
35.939-4	Protests against award.

§ 35.937 Contracts for personal and professional services.

In the procurement of personal and professional services, grantees may use their own procurement systems and procedures which meet applicable requirements of State, territorial or local laws and ordinances to the extent that such systems and procedures do not conflict with Federal laws, regulations or policies. The applicable provisions of §§ 35.937 through 35.937-11 apply to all subagreements of grantees for personal and professional services where the aggregate amount of services involved is expected to exceed $10,000.

(a) *Policy.* Facilities planning (Step 1), project design work (Step 2), or administration or management of (Step 3) project work may be performed by negotiated procurement of engineering, planning, architectural, accounting, fiscal, legal, or related services, as appropriate. The proper award and performance of contracts for such services is of crucial importance for the optimum design and construction of treatment works in accordance with the policies set forth in Pub. L. 92-500, Federal Management Circular 74-7, and in this subpart. It is the policy of the Federal Government to encourage public announcement of the requirements for personal and professional services. Contracts for such services shall be negotiated with candidates selected on the basis of demonstrated competence and qualifications for the type of professional services required and at a fair and reasonable price. All negotiated procurement shall be conducted in a manner to provide to the maximum practicable extent open and free competition.

(b) *Definitions.* As used in §§ 35.937 through 35.937-12 the following words and terms shall have the meaning set forth below:

(1) Architectural or engineering services are those professional services associated with research, development, design and construction, alteration, or repair of real property, as well as incidental services that members of these professions and those in their employ may logically or justifiably perform, including studies, investigations, surveys, evaluations, consultations, planning, programming, conceptual designs, plans and specifications, cost estimates, inspections, shop drawing reviews, sample recommendations, preparation of operation and maintenance manuals, and other related services.

(2) Subagreement is a written agreement between a grantee and third party and any tier of agreement thereunder for the furnishing of services, supplies, or equipment necessary to complete the project for which a grant was awarded, including contracts for personal and professional services and purchase orders. Subagreements must be necessary for and directly related to the accomplishment of the project work; must be in the form of a bilaterally executed written agreement; must be for monetary or in-kind consideration; and may not be in the nature of a grant or gift.

§ 35.937-1 Type of contract.

The preferred type of negotiated contract is the fixed price type. However, the cost reimbursement types of contract (e.g., cost-plus-fixed-fee, cost-plus-incentive-fee, etc.) may be utilized if the cost of contract performance cannot be adequately estimated for fixed price purposes. The cost-plus-percentage-of-cost (including salary multiplier) and the percentage-of-construction-cost types of contract may not be utilized. Each cost reimbursement contract must clearly establish a cost ceiling which the contractor may not exceed without formally amending the contract.

§ 35.937-2 Public announcement.

(a) Adequate public notice must be given of the request for proposals for negotiated procurements with an anticipated price in excess of $10,000 except where single source procurement is permitted pursuant to § 35.937-11. Such notice of request for proposals should be published in professional journals, newspapers, or publications of general circulation beyond the grantee's locality (Statewide, generally), and through posted public notices, or written notification directed to interested persons, firms, or professional organizations inviting proposals and stating the method by which request for proposal documents may be obtained or examined. Sources which request an opportunity to submit proposals, and which are not otherwise barred by law or regulation, shall be promptly furnished a copy of the request for proposal and shall be permitted to submit a proposal in response thereto.

(b) Requests for proposals must be in writing and must contain the information necessary to enable a prospective offeror to prepare a proposal properly. The request for proposals must include the solicitation statement required pursuant to § 35.937-9(a) and must inform offerors of all evaluation criteria (as stated in § 35.937-3) and of the relative importance attached to each criterion (a numerical weighted formula need not be utilized).

(c) The request for proposal must clearly state the time and place for submission of proposals.

§ 35.937-3 Evaluation criteria.

(a) The grantee shall review submissions from eligible firms received in response to public notice of a particular project and shall uniformly evaluate the responding firms. Information shall not be conveyed to one or more candidates which would give them a competitive advantage.

(b) Criteria which must be considered in the evaluation and ranking of candidates for selection for negotiation of a contract shall as a minimum include:

(1) Specialized experience and technical competence of the candidate or firm and its personnel (including a joint venture or association) in connection with the type of services required.

(2) Past record of performance on contracts with the grantee, other government agencies or public bodies, and with private industry, including such factors as control of costs, quality of work and ability to meet schedules;

(3) Capacity of the candidate to perform the work (including any specialized services) within the time limitations;

(4) Geographic location of the candidate and its familiarity with the area in which the project is located;

(5) Proposed method to accomplish the work required, including, where appropriate, demonstrated capability to explore and develop innovative or advanced techniques and designs;

(6) Volume of work previously awarded to the candidate by the grantee with the object of effecting an equitable distribution of work among qualified firms; and

(7) Avoidance of personal and organizational conflicts of interest.

§ 35.937-4 Ranking and selection of candidates for architectural or engineering services.

Not less than three candidates must be selected and ranked for negotiation of contracts, unless after good faith effort to solicit proposals in accordance with § 35.937-2, three or fewer qualified candidates respond, in which case all qualified candidates must be selected and ranked for negotiation. The ranking

should be accomplished by an objective process, such as the appointment of a board or committee which includes technical experts. Oral or written interviews should be conducted with proposers, and information derived therefrom shall be treated on a confidential basis, except as required to be disclosed to EPA pursuant to § 35.937-6 (Cost and price considerations).

§ 35.937-5 Negotiation.

Grantees are responsible for negotiation of contracts. This function may be performed by the grantee directly or by a person or firm retained for the purpose. Contract negotiations may include the services of technical, legal, audit or other specialists to the extent deemed appropriate. Negotiations shall be directed toward:

(a) Making certain that the candidate has a clear understanding of the essential requirements;

(b) Assuring that the candidate will make available the necessary personnel and facilities to accomplish the work within the required time;

(c) Assuring that the candidate will provide the required technical services in accordance with regulations and criteria established for the project; and

(d) Reaching mutual agreement on the provisions of the contract, including a fair and reasonable price for the required work determined in accordance with the cost and profit considerations set forth in §§ 35.937-6 and 35.937-7.

§ 35.937-6 Price and cost considerations.

(a) *General.* It is the policy of EPA that the cost or price of all subagreements must be considered. For each subagreement expected to exceed $100,000, each proposer selected for negotiation shall submit to the grantee adequate documentation to enable the grantee to perform appropriate review of proposed costs or prices as described in paragraphs (b) and (c) of this section. The grantee, after reviewing the data, shall submit the proposer's data, his findings and the proposed subagreement to the Project Officer for review. The Project Officer must approve the cost or price analysis prior to the award of the contract to assure compliance with appropriate procedures.

(b) *Cost analysis.* (1) In those cases where technical competition is the principal selection factor, a detailed analysis of the selectee's cost estimate and backup cost or pricing data is required.

(2) Cost analysis includes the appropriate verification of cost data, the evaluation of specific elements on costs, and the projection of these data to determine the effect on prices of such factors as:

(i) The necessity for certain costs;

(ii) The reasonableness of amounts estimated for the necessary costs;

(iii) Allowances for contingencies;

(iv) The basis used for allocation of overhead costs; and

(v) The appropriateness of allocations of particular overhead costs to the proposed contract.

(3) Appropriate consideration should be given to § 35.940, which contains general cost principles and procedures for the determination and allowability of costs under grants.

(4) Among the evaluations that should be made where the necessary data are available and the level of effort merits such evaluations are comparisons of a contractor's or offeror's current estimated costs with:

(i) Currently approved (certified) rates (direct and indirect) based on recent Federal, State or local analysis or audit utilizing the allowable cost principles of § 35.940.

(ii) Actual costs previously incurred by the contractor or offeror;

(iii) The contractor's or offeror's last prior cost estimate for the same or a similar item or with a series of his prior estimates;

(iv) Current cost estimates from other possible sources; and

(v) Prior estimates of historical costs of other contractors performing services of a similar nature.

(5) Forecasting future trends in costs from historical cost experience is of primary importance. An adequate cost analysis must include consideration of future trends in costs when reasonably determinable.

(6) In addition to the elements of cost, the amount of profit shall be set forth separately in the cost analysis.

(c) *Price analysis.* Price analysis is the process of evaluating a prospective price without regard to the contractor's separate cost elements and proposed profit. Price analysis is used when the services required lend themselves to price comparison.

§ 35.937-7 Profit.

It is the policy of EPA that profit—i.e., the net proceeds obtained by deducting all eligible elements of cost (direct and indirect) from the price—on a subagreement and each amendment to a subagreement under a grant be sufficient to attract contractors who possess talents and skills necessary to the accomplishment of project objectives, and to stimulate efficient and expeditious completion of the project. Where cost analysis is performed, the estimate of profit should be analyzed as are all other elements of price. The objective of negotiations shall be the exercise of sound business judgment including a fair and reasonable profit based on the firm's assumption of risk and input to total performance and not merely the application of a predetermined percentage factor. For example, the ratio of profit to cost should normally be less for amendments and change orders than for initial contract agreements.

§ 35.937-8 Award of contract.

(a) After the close of negotiations, the grantee shall award the contract to the proposer whose proposal achieves the best technical product at a reasonable price as set forth in §§ 35.937-5, 35.937-6 and 35.937-6.

(b) An unsuccessful offeror shall be notified at the earliest practicable time that its offer has not been selected for award.

(c) Upon written request of an unsuccessful offeror, the grantee shall disclose the reason(s) for rejection.

(d) The grantee must develop and retain adequate records of the basis for selection for negotiation and award.

(e) The grantee shall secure written approval from the EPA Project Officer of all subagreements or amendments thereto in excess of $100,000 and their cost analyses prior to execution of the subagreement or amendment to assure compliance with appropriate procedures.

§ 35.937-9 Required solicitation and subagreement provisions.

Each subagreement must adequately define the scope of project work to be performed by the contractor for the grantee and must include adequate provisions to define a sound and complete agreement. All such subagreements must include the applicable provisions set forth in paragraph (b).

(a) *Required solicitation statement.* Requests for proposals must include the following statement:

> Any contract or contracts awarded under this request for proposals are expected to be funded in part by a grant from the United States Environmental Protection Agency. This procurement will be subject to regulations contained in 40 CFR 35.937 and 35.939. Neither the United States nor the United States Environmental Protection Agency is nor will be a party to this request for proposals or any resulting contract.

(b) *Required subagreement provisions.*

(1) *Privity of contract.* Each subagreement must include the following or substantially similar provision:

> This contract is funded in part by a grant from the U.S. Environmental Protection Agency. This contract is subject to regulations contained in 40 CFR 35.937 and 35.939. Neither the United States nor the U.S. Environmental Protection Agency is a party to this contract.

(2) *Amendment.* Each subagreement must contain adequate provision for amendment of work within the scope of the contract by the grantee.

(3) *Termination; suspension.* Each subagreement must contain adequate provisions for termination of all or any part of contract performance for default or for convenience by the grantee, or for suspension of all or any part of contract performance by agreement or by the grantee, including the manner by which the termination or suspension will be effected and the basis for settlement.

(4) *Remedies.* Each subagreement must contain adequate contractual provisions or conditions to allow for administrative, contractual, or legal remedies in instances where grantees or contractors violate or breach contract terms or

conditions, and must provide for such damages, sanctions, and penalties as may be appropriate.

(5) *Employment practices.* Each subagreement must contain a provision that the contractor shall not discriminate, directly or indirectly, on the grounds of race, color, religion, sex, age, or national origin in its employment practices under any project, program, or activity receiving assistance from EPA, and that the contractor shall take affirmative steps to ensure that applicants are employed and employees are treated during employment without regard to race, color, religion, sex, age, or national origin.

(6) *Patents; data; copyrights.*—(i) Each subagreement shall contain a provision to the effect that the contractor is subject to the duties of the grantee relating to rights in data and copyrights contained in 40 CFR 30.530.

(ii) Each subagreement involving experimental, developmental, research or demonstration work shall contain a provision to the effect that the contractor is subject to the duties of the grantee relating to rights to inventions and patents contained in 40 CFR 30.515.

(7) *Notice and assistance regarding patent and copyright infringement.* Each subagreement must contain a clause substantially similar to that set forth in the grant agreement entitled "Notice and Assistance Regarding Patent and Copyright Infringement."

(8) *Records.* Each subagreement must contain a provision requiring the contractor to maintain records of contract performance as defined in § 30.805 of this Subchapter and make these records available for inspection, audit and copying by the grantee, EPA, the Comptroller General of the United States, or any authorized representative, to the extent and for the same length of time as is set forth with respect to grantee records in § 30.805 of this subchapter.

(9) *Access.* Each subagreement must contain a provision to ensure that the Project Officer and any authorized representative of EPA or the Comptroller General of the United States shall at all reasonable times during the period of EPA grant support and until three years after final settlement have access to the facilities, premises and records, as defined in § 30.805, of the contractor related to the project. In addition, any person designated by the Project Officer shall have access, upon reasonable notice to the grantee by the Project Officer, to visit the facilities and premises related to the project.

(10) *Executive Order 11738.* Each subagreement in excess of $100,000 must contain a provision whereby the contractor or subcontractor agrees to comply with all applicable regulations issued pursuant to Section 306 of the Clean Air Act and Section 508 of the Federal Water Pollution Control Act.

(11) *Contingent fees.* Each subagreement shall contain a prohibition against contingent fees as follows:

The Contractor warrants that no person or company has been employed or retained to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees; nor has the contractor paid or agreed to pay any person, company, corporation, individual or firm other than a bona fide employee, any fee, commission, contribution, donation, percentage, gift, or any other consideration, contingent upon, or resulting from award of this contract. For any breach or violation of this provision, the Owner shall have the right to terminate this agreement without liability and, at his discretion, to deduct from the contract price, or otherwise recover, the full amount of such fee, commission, percentage, gift or consideration and any other damages, and shall be responsible for reporting the details of such breach or violation to the proper legal authorities, where and when appropriate.

§ 35.937–10 Subagreement payments—professional services.

Full and prompt payment should be made by grantees and contractors for eligible costs incurred as work proceeds under contracts for personal and professional services under an EPA grant. Grantees and contractors should not as a matter of policy withhold payment for eligible contract costs for professional services unless it is determined that the professional service contractor has failed to comply with contract objectives, terms, conditions, or reporting requirements. Withholding should be limited to only that amount necessary to assure contract compliance.

§ 35.937–11 Applicability to existing contracts.

(a) In some cases a negotiated subagreement may have been executed prior to the effective date of these regulations to cover work under more than one step of a grant. Such contracts already in existence may not have included a firm and definitive scope of work or a firm price for the later steps.

(1) When the scope of work has been sufficiently defined to negotiate a firm, contractual agreement, including a firm price, for subsequent phases of the work at the time of the initial negotiation, all phases covered by the firm agreement may proceed under that contract.

(2) When the scope of work is not sufficiently defined to negotiate a firm contractual agreement, including a firm price, for each phase of the work at the time of the initial negotiation, the grantee must, prior to moving into subsequent phases, either

(i) Renegotiate the contract in accordance with §§ 35.937–5 (Negotiation), 35.937–6 (Price and cost considerations) and 35.937–7 (Profit), or

(ii) Announce the subsequent phases and negotiate a contract with the successful proposer.

(3) The provisions of subparagraph (2) above shall apply to all negotiated contracts for personal and professional services spanning more than one step if the subsequent phases are made firm after the effective date of this regulation, even if the firm contract for the first phase was executed prior to that date.

(4) The announcement provision in subparagraph (2) above shall not apply to a grantee who desires to utilize the engineering firm which performed the pre-design or the design work under step 1 or step 2 of the grant for services during construction under step 3.

(b) When a single treatment works is segmented into two or more step 3 projects, and if the step 2 work is accordingly segmented so that the initial contract for preparation of construction drawing and specifications does not cover the entire treatment works to be built under one grant, the grantee need not announce the requirement for architectural or engineering services for subsequent segments of design work under one grant. The grantee may use the same engineering firm that was selected for the initial segment of step 2 work for subsequent segments if he desires to do so. All other appropriate provisions of these sections, including cost analysis and negotiation of price, will apply to each segment of work.

§ 35.938 Construction contracts of grantees.

§ 35.938–1 Applicability.

This section applies to contracts awarded by grantees for any Step 3 project except personal and professional service contracts.

§ 35.938–2 Performance by contract.

It is the policy of the Environmental Protection Agency to encourage free and open competition with regard to project work performed by contract. The project work shall be performed under one or more contracts awarded by the grantee to private firms, except for force account work authorized by § 35.935–2.

§ 35.938–3 Type of contract.

Each contract shall be a fixed price (lump sum or unit price or a combination of the two) contract, unless the Regional Administrator gives advance written approval for the grantee to use some other method of contracting. The cost-plus-a-percentage-of-cost method of contracting shall not be used.

§ 35.938–4 Formal advertising.

Each contract shall be awarded by means of formal advertising, unless negotiation is permitted in accordance with § 35.939–1. Formal advertising shall be in accordance with the following:

(a) *Adequate public notice.* The grantee will cause adequate notice to be given of the solicitation by publication in newspapers or journals of general circulation beyond the grantee's locality (Statewide, generally), inviting bids on the project work, and stating the method by which bidding documents may be obtained and/or examined. Where the estimated prospective cost of Step 3 construction is ten million dollars or more, such notice must generally be published in trade journals of Nationwide distribution. The grantee should in addition solicit bids directly from bidders if it maintains a bidders list.

(b) *Adequate time for preparing bids.* Adequate time, generally not less than 30 days, must be allowed between the date when public notice pursuant to paragraph (a) of this section is first published and the date by which bids must be submitted. Bidding documents (including specifications and drawings) shall be available to prospective bidders from the date when such notice is first published.

(c) *Adequate bidding documents.* A reasonable number of bidding documents (invitations for bid) shall be prepared by the grantee and shall be furnished upon request on a first-come, first-serve basis. A complete set of bidding documents shall be maintained by the grantee and shall be available for inspection and copying of any part. Such bidding documents shall include:

(1) A complete statement of the work to be performed, including necessary drawings and specifications, and the required completion schedule. (Drawings and specifications may be made available for inspection instead of being furnished.);

(2) The terms and conditions of the contract to be awarded;

(3) A clear explanation of the method of bidding and the method of evaluation of bid prices, and the basis and method for award of the contract;

(4) Responsibility requirements or criteria which will be employed in evaluating bidders; *Provided*, That an experience requirement or performance bond may not be utilized unless adequately justified under the particular circumstances by the grantee;

(5) The following statement:

> Any contract or contracts awarded under this Invitation for Bids are expected to be funded in part by a grant from the United States Environmental Protection Agency. Neither the United States nor any of its departments, agencies or employees is or will be a party to this Invitation for Bids or any resulting contract;

and

(6) A copy of § 35.938 and § 35.939.

(d) *Sealed bids.* The grantee shall provide for bidding by sealed bid and for the safeguarding of bids received until public opening.

(e) *Amendments to bidding documents.* If a grantee desires to amend any part of the bidding documents (including drawings and specifications) during the period when bids are being prepared, the amendments shall be communicated in writing to all firms who have obtained bidding documents in time to be considered prior to the bid opening time; when appropriate, the period for submission of bids shall be extended.

(f) *Bid modifications.* A firm which has submitted a bid shall be allowed to modify or withdraw its bid prior to the time of bid opening.

(g) *Public opening of bids.* Grantee shall provide for a public opening of bids at the place, date and time announced in the bidding documents.

(h) *Award to the low responsive, responsible bidder.* (1) After bids are opened, they shall be evaluated by the grantee in accordance with the methods and criteria set forth in the bidding documents.

(2) Unless all bids are rejected, award shall be made to the low, responsive, responsible bidder.

(3) If award is intended to be made to a firm which did not submit the lowest bid, a written statement shall be prepared prior to any award and retained by the grantee explaining why each lower bidder was deemed not responsive or nonresponsible.

(4) State or local laws, ordinances, regulations or procedures which are designed or operated to give local or in-State bidders preference over other bidders shall not be employed in evaluating bids.

§ 35.938–5 Negotiation of contract amendments.

(a) Amendments to formally advertised, fixed price, construction contracts, including change order amendments, shall be negotiated utilizing the provisions of § 35.937–5 (Negotiation), § 35.937–6 (Price and cost considerations) and § 35.937–7 (Profit).

(b) Related work shall not be split into two amendments or change orders merely to keep it under $100,000 and thereby avoid the requirements of paragraph (a). For change orders which include both additive and deductive items:

(1) If any single item (additive or deductive) exceeds $100,000, the requirements of paragraph (a) shall be applicable.

(2) If no single additive or deductive item has a value of $100,000, but the total price of the change order is over $100,000, the requirements of paragraph (a) shall be applicable.

(3) If the total of additive items of work in the change order exceed $100,000 or the total of deductive items of work in the change order exceed $100,000 and the net price of the change order is less than $100,000, the requirements of paragraph (a) shall apply.

§ 35.938–6 Subagreement payments—construction, materials and equipment.

(a) It is EPA policy that, except as may be otherwise provided by State law, full and prompt payment should be made by grantees and contractors for eligible construction, material, and equipment costs incurred under a contract under an EPA construction grant.

(b) Maximum partial payments—payment for partial delivery and acceptance of contractors—would be made by grantees and contractors for items (including manufactured items such as pipe):

(1) Which have been delivered to the construction site, or which are stockpiled in the vicinity of the construction site;

(2) Where title is vested in the grantee, and

(3) when acceptance is made by the grantee, its authorized representative, or contractor.

It is the grantee's responsibility through its representatives and contractors to insure that items for which partial payments have been made are adequately insured and are protected through appropriate security measures. Costs of such insurance and security are allowable costs in accordance with § 35.940.

(c) Progress payments—payment made for work on undelivered items as such work progresses—for specifically manufactured items or equipment may be made by the grantee or contractor only under the following circumstances:

(1) When so stated in the contract specification by the grantee's consulting engineer for major equipment or items specifically manufactured for the project (and not for off-the-shelf or catalog items or equipment not requiring special manufacture);

(2) Where a fabrication period of more than nine months between beginning of work and the first delivery is anticipated; and

(3) Where a substantial amount of predelivery expenditures that will materially impact working funds of the contractor or subcontractor are anticipated.

(d) Withholding full and prompt payment of construction, material, and equipment contracts shall be limited to the following:

(1) withholding of up to 10 percent of the payment claimed until work is 50 percent complete;

(2) after work is 50 percent complete, reduction of the withholding to 5% of the dollar value of all work satisfactorily completed to date, provided that the contractor is making satisfactory progress and there is no specific cause for greater withholding;

(3) when the work is substantially complete (operational or beneficial occupancy), the withheld amount shall be further reduced below 5 percent to only that amount necessary to assure completion.

(4) The grantee may reinstate the full 10% withholding if such withholding is necessary to insure completion of the contract objectives, terms, conditions or reporting requirements.

(e) The grantee will accept a cash bond or irrevocable letter of credit if offered in lieu of cash withholding under (d)(2) or (d)(3). "Irrevocable letter of credit" shall be construed to constitute a letter from a bank or other lending institution irrevocably guaranteeing the availability of requisite funds; i.e., irrevocable line of credit for the purpose in question. "Cash bond" shall constitute an acceptable bond, purchased by the contractor, to cover the withholding stipulated in the contract document. Such an instrument is similar to a performance and payment bond but serving a different purpose, namely contractual withholding. A "cash bond" may also be in the form of immediately negotiable (1) bonds or notes of the United States of America, or obligations, the payment of which is guaranteed by the United

States of America, or (2) bonds or notes of any State, or (3) bonds of any political subdivision of any State.

(f) Each contract shall include appropriate provision regarding partial and progress payments. The text of such clause must be acceptable to the Regional Counsel.

(g) Pursuant to § 30.620-3 of this Subchapter, a grantee who delays disbursement of grant funds will be required to credit to the United States all interest earned on those funds.

§ 35.939 *General procurement requirements.*

§ 35.939-1 *Negotiation of subagreements.*

(a) Procurement by formal advertising is the preferred method of contracting; however, negotiation of subagreements by the grantee is authorized if it is impracticable and infeasible to use formal advertising. All negotiated procurement shall be conducted in a manner to provide to the maximum practicable extent open and free competition. Generally, procurements may be negotiated by the grantee if any of the following conditions are applicable:

(1) Public exigency will not permit the delay incident to formally advertised procurement (*e.g.*, an emergency procurement).

(2) The aggregate amount involved does not exceed $10,000 (see § 35.939-3 for small purchases).

(3) The material or service to be procured is available from only one person or entity. If the procurement is expected to aggregate more than $10,000, the grantee must document its file with a justification of the need for noncompetitive procurement, and provide such documentation to the Project Officer on request.

(4) The procurement is for personal or professional services or for any service to be rendered by a university or other educational institution.

(5) No responsive, responsible bids at acceptable price levels have been received after formal advertising.

(6) The procurement is for materials or services where the prices are established by law.

(7) The procurement is for technical items or equipment requiring standardization and interchangeability of parts with existing equipment, or for technical or specialized supplies requiring substantial initial investment for manufacture.

(8) The procurement if for experimental, developmental or research services.

(b) When negotiation of subagreements is authorized pursuant to (a) above, such subagreements shall be negotiated utilizing the applicable provisions of §§ 35.937 through 35.937-11.

§ 35.939-2 *Code or standards of conduct.*

(a) The grantee must maintain a code or standards of conduct which shall govern the performance of its officers, employees, or agents in the conduct of project work, including procurement and the expending of project funds. As a minimum, the grantee must exert diligent effort to ensure that its officers, employees or agents shall neither solicit nor accept gratuities, favors or anything of monetary value from contractors or potential contractors. The grantee must avoid personal or organizational conflicts of interest or noncompetitive procurement practices which restrict or eliminate competition or otherwise restrain trade.

(b) To the extent permissible by State or local law or formal institutional requirements and procedures, the grantee must ensure that penalties, sanctions, or other adequate disciplinary actions are applied for project-related violations of law or of such code or standards of conduct by either the grantee officers, employees, or agents, or by contractors or their agents.

(c) The grantee must inform the Project Officer in writing of each violation of law or code or standards of conduct, by its officers, employees, contractors, or by their agents, and of the prosecutive or disciplinary action taken by the grantee with respect to such infractions, and must cooperate with Federal officials with respect to any Federal prosecutive or disciplinary actions instituted with respect to such infractions. Pursuant to § 30.245 of this Subchapter, the Project Officer must notify the Director, EPA Security and Inspection Division, of all such notifications from the grantee.

(d) EPA shall cooperate with the grantee with respect to its disciplinary or prosecutive actions taken with respect to any apparent project-related violations of law or of the grantee's code or standards of conduct.

(e) All procurements under grants are covered by the provisions of § 30.245 of this Subchapter relating to fraud and other unlawful or corrupt practices.

§ 35.939-3 *Small purchases.*

(a) A small purchase is the procurement of materials, supplies, and services when the aggregate amount involved in any one transaction does not exceed $10,000. The small purchase limitation of $10,000 applies to the aggregate total of an order, including all estimated handling and freight charges, overhead, and profit to be paid under the order. In arriving at the aggregate amount involved in any one transaction, there must be included all items which should properly be grouped together.

(b) Small purchases shall be accomplished by negotiation, except when otherwise required by State or local law or where it is clearly in the best interest of the project to accomplish such purchases by more formal methods. Reasonable competition shall be obtained.

(c) Subagreements for small purchases need not be in the form of a bilaterally executed written agreement. Where appropriate, unilateral purchase orders, sales slips, memoranda of oral price quotations, and the like may be utilized in the interest of minimizing paperwork. Retention in the purchase files of written quotations received, or references to printed price lists used, will suffice as the record supporting the price paid.

§ 35.939-4 *Protests against award.*

(a) *Grantee responsibility.* The grantee is responsible for conducting project procurement in accordance with applicable requirements of State, territorial, or local laws or ordinances, as well as the specific requirements of Federal law or this subchapter directly affecting the procurement (for example, the nonrestrictive specification requirement of § 35.935-2(b) or the equal employment opportunity requirement of § 35.935-6) and for the initial resolution of complaints based upon alleged violations of these Federal requirements. If complaint is made to the Regional Administrator concerning an alleged violation of Federal law or this subchapter concerning procurement under a grant for construction of treatment works, the complaint will be referred to the grantee for resolution. (The provisions of § 30.245 of this subchapter relating to fraud and other unlawful or corrupt practices also apply.) The grantee must promptly determine each such complaint upon its merits permitting the complaining party as well as any other interested party who may be adversely affected, to state in writing or at a conference the basis for their views concerning the proposed procurement. The grantee must promptly furnish to the complaining party and to other affected parties (by certified mail, return receipt requested), a written summary of its determination, substantiated by a legal opinion (and accompanied by an engineering report where step 3 construction is involved), providing a justification for its determination. See paragraph (c) of this section for applicable time limitations.

(b) *Regional Administrator responsibility.* A party adversely affected by an adverse determination of a grantee made pursuant to paragraph (a) of this section, concerning an alleged violation of a specific requirement of Federal law or this subchapter directly affecting a grantee's procurement may request the Regional Administrator to review an adverse determination, subject to the time limitation set forth in paragraph (c) of this section. A copy of the written adverse determination and supporting justification shall be transmitted with the request for review, together with a statement of the specific reasons why the proposed grantee procurement action would violate Federal requirements. The Regional Administrator will afford both the grantee and the complaining party, as well as any other interested party who may be adversely affected, an opportunity to present the basis for their views in writing or at a conference, and he shall promptly state in writing the basis for his determinations of the protest. If the grantee proposes to award a formally advertised contract or to approve award of a specified sub-item under such contract to a

bidder other than the apparent low bidder, the grantee will bear the burden of proving that its determination concerning responsiveness of the low bid is in accordance with Federal law and this subchapter. If the basis for the grantee's determination is a finding that the low bidder is not responsible, the grantee must establish and substantiate the basis for its determination and must establish that such determination has been made in good faith. The written determination by the Regional Administrator shall be promptly furnished to the grantee and to the complainant and shall be final as to Agency action except with respect to appeal rights of the grantee under the disputes provision of the grant (see Part 30 Subpart J of this subchapter). (The provisions of § 30.245 of this Subchapter relating to fraud and other unlawful or corrupt practices also apply.)

(c) *Time limitations.* Complaints should be made pursuant to paragraph (a) of this section as early as possible during the procurement process, preferably prior to issuance of an invitation for bids to avoid disruption of the procurement process; *Provided*, That a complaint authorized by paragraph (a) of this section must be mailed (by certified mail, return receipt requested) or delivered no later than the fifth working day after receipt of notice of nonselection or, if no notice is received, the fifth working day after the complainant first learns of the action it desires to protest. A protest against a post-award procurement action of a grantee must be mailed (certified mail, return receipt requested) or delivered to the Regional Administrator as soon as possible, but in no event later than the fifth working day after procurement action is taken by the grantee or the fifth working day after the complainant first learns of the action it desires to protest, whichever occurs later. A request for review by the Regional Administrator pursuant to paragraph (b) of this section must be received by the Regional Administrator within one week after the complaining party received the grantee's adverse determination.

(d) *Deferral of procurement action.* Where the grantee has received a written complaint pursuant to paragraph (a) of this section, it must defer the protested procurement action (for example, defer the issuance of solicitations, bid opening date, contract or award or notice to proceed under the contract) for ten days after mailing or delivery of any written adverse determination. Where the Regional Administrator has received a written protest pursuant to paragraph (b) of this section, he must notify the grantee promptly and the grantee must defer its protested procurement action until after it receives the determination by the Regional Administrator. If a determination is made by either the grantee or the Regional Administrator which is favorable to the complainant, the grantee's procurement action (for example, contract award) must be taken in accordance with such determination.

(e) *Extensions of time.* The filing of a protest by a bidder shall constitute an extension of the period for acceptance of his bid and his bid bond(s), if any, until 10 working days after final determination of his protest. The grantee must seek to obtain similar extensions from other affected bidders.

(f) *Enforcement.* Noncompliance with the provisions of this subchapter affecting procurement will result in (1) total or partial termination of the grant pursuant to § 35.950, (2) ineligibility for grant assistance which could otherwise be awarded under this subchapter or (3) disallowance of project costs (see § 35.940-2(j)) incurred in violation of the provisions of this subchapter or applicable Federal laws, as determined by the Regional Administrator. The grantee may appeal adverse determinations by the Regional Administrator in accordance with the disputes provision of this subchapter (see 40 CFR Part 30 Subpart J).

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Title 40—Protection of Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

PART 35—STATE AND LOCAL ASSISTANCE

Interim Regulations

Interim regulations are hereby promulgated to publish a new codification of the portions of 40 CFR Part 35, State and Local assistance grant regulations which pertain to water pollution control program grant awards. These interim regulations supplement the Environmental Protection Agency general grant regulations (40 CFR Part 30). They provide minimum guidelines for Federal grant assistance to the States and interstate agencies to assist them in administering their water pollution control programs.

Section 106 of the Federal Water Pollution Control Act, as amended (P.L. 92-500; 86 Stat. 816; 33 U.S.C. 1256 (1972)), authorizes the Administrator of the Environmental Protection Agency to make annual allotments from sums appropriated by Congress in each fiscal year on the basis of the extent of the pollution problem in the several States. The Act requires that the Administrator promulgate regulations governing such allotments.

These regulations describe the annual State program for the control and abatement of water pollution and for the allocation of Federal grant assistance to support these State programs. The program should be viewed as one part of an overall management system to be used by the States, interstate agencies, and

EPA in carrying out the requirements of the Federal Water Pollution Control Act Amendments of 1972. The system begins with the establishment of the continuing planning process described in Part 130 of this chapter. The process is designed to provide States with the basis for developing a "State Strategy" which contains an assessment of their pollution problems, a means for developing their control strategies, and for assessing results. The State strategy, which will be based upon basin plans where they are completed and upon available information where the plans are not completed, together with other associated outputs, provide the basis for developing each State's annual program.

The program is the management device which the State uses to establish what it will accomplish during the year, allocate its resources, and assess its progress toward those accomplishments. At the same time, the State program provides EPA the basis for providing Federal grants to supplement State funds; to include providing funds for program activity at the State level in developing and implementing waste treatment management plans.

Finally the regulations describe the mechanism by which reports are produced and submitted, and by which State efforts are evaluated to determine the compliance milestones achieved, effluent reductions achieved, the extent to which water quality has improved, program status, and resource allocation and use.

Interested parties are encouraged to submit written comments, suggestions, views, or data concerning the interim regulations promulgated hereby to: Director, Grants Administration Division, Environmental Protection Agency, Washington, D.C. 20460. All such submissions received on or before August 13, 1973 will be considered prior to the promulgation of final regulations.

Effective date. The interim water program regulations promulgated hereby shall become effective on June 29, 1973. All Environmental Protection Agency water program grants awarded after June 30, 1973, pursuant to Public Law 92-500 shall be subject to these regulations. It is necessary that these regulations take effect prior to a thirty day period following promulgation to insure their implementation without delay at the beginning of the next fiscal year and to permit States to submit applications for program grants from funds available during the next fiscal year in accordance with the new procedures established pursuant to these regulations. Prior regulations (37 FR 11655, 11658-60) governing water program grants shall remain applicable to grants awarded from funds appropriated for the fiscal year ending June 30, 1973. Prior regulations (37 FR 11655-58) governing the award of air program grants remain in effect.

Dated: June 27, 1973.

ROBERT W. FRI,
Acting Administrator.

In Subpart B of 40 CFR Part 35 the following sections are revised as set forth below, pursuant to the authorities cited in 40 CFR 30.106.

§ 35.100 Purpose.

This subpart, which establishes and codifies policy and procedures for air and water pollution control program assistance grants, supplements the EPA general grant regulations and procedures (Part 30 of this chapter) and is applicable to air and water program grants. These grants are intended to aid programs for the prevention and control of air or water pollution at the State, interstate or local level.

§ 35.100-2 Water pollution control program grant awards.

Grants may be awarded to State and interstate water pollution control agencies to assist them in developing or administering programs for the prevention, reduction, and elimination of water pollution, including enforcement directly or through appropriate State law enforcement officers or agencies.

§ 35.101 Authority.

This subpart is issued under sections 105, 106 and 301(a) of the Clean Air Act, as amended (42 U.S.C. 1857c, 1857c-1, and 1857g) and section 106 and 501 of the Federal Water Pollution Control Act Amendments of 1972 (33 U.S.C. 1256 and 1361).

§ 35.103 Criteria for evaluation of program objectives.

(a) Programs set out in the application and submitted in accordance with these regulations shall be evaluated in writing by the Regional Administrator to determine:

(1) Consistency and compatibility of goals and expected results with national strategies in implementing the purpose and policies of the Clean Air Act and the Federal Water Pollution Control Act, as amended.

(2) Feasibility of achieving goals and expected results in relation to existing problems, past performance, program authority, organization, resources and procedures.

(b) Approval of the program developed pursuant to § 35.525 (air) or § 35.554 (water) shall be based on the extent to which the applicant's program satisfies the above criteria.

§ 35.110 Evaluation of program performance.

(a) Program performance evaluations shall be conducted at least annually by the appropriate Regional Administrator and the grantee to provide a basis for measuring progress toward achieving approved program objectives or milestones described in the program. The evaluation shall address the objectives, responsibilities, major functions, and other related activities set forth in the grantee's approved program. For air program grants, the evaluation shall be completed not later than 120 days before the beginning of the new budget period.

(b) The Regional Administrator shall prepare a summary of the joint evaluation findings. The grantee shall be allowed 15 working days from date of receipt to concur with or comment on the findings.

§ 35.115 Report of project expenditures.

Within 90 days after the end of each budget period, the grantee must submit to the Regional Administrator an annual report of all expenditures (Federal and non-Federal) which accrued during the budget period. Beginning in the second quarter of any succeeding budget period, grant payments may be withheld pursuant to § 30.602-1 of this chapter until this report is received.

§ 35.120 Payment.

Grant payments may be made in advance, however payments will be made in a manner so as to minimize the time elapsed between receipt of grant funds by the grantee and disbursement by him. Notwithstanding the provisions of § 30.305 of this chapter the first grant payment subsequent to grant award shall include reimbursement for all allowable costs incurred from the beginning of the approved budget period, provided that monthly costs incurred from the beginning of the budget period to the date of grant award may not exceed the level of cost incurred in the last month of the prior budget period.

§ 35.331 Scope and purpose.

This subpart establishes regulations and procedures by which program grant funds may be provided to the States and interstate agencies as authorized by section 106 of the Federal Water Pollution Control Act Amendments of 1972 (PL 92-500; 86 Stat. 816; 33 U.S.C. 1256). These regulations are intended to foster development of State programs which implement PL 92-500.

§ 35.332 Definitions.

As used herein, the following words and terms shall have the meaning set forth below:

§ 35.332-1 Allotment.

The sum reserved for each State or interstate agency from funds appropriated by Congress. The allotment is determined by formula based on the extent of the water pollution problem in the several States. It represents the maximum amount of money potentially available to the State for its program grant.

§ 35.332-2 State program grant.

The amount of Federal assistance awarded to a State to assist in administering programs for the prevention, reduction, and elimination of water pollution.

§ 35.332-3 State program.

The annual submissions including revisions, which describe the State's commitments to control water pollution in conformance with § 35.555.

§ 35.552–4 Number of pollution sources.

A count of the sources of discharge associated with any:

(a) One of the twenty-seven Standard Industrial classification (SIC) codes listed in section 306(b)(1)(A) of the Act (the number of establishments are reported in the latest edition of "Census of Manufacturers," U.S. Department of Commerce);

(b) Municipality (as reported in the EPA Municipal Waste Facilities Directory, dated April 6, 1972);

(c) Power plant (Nuclear, oil, coal or gas) (as reported in "STEAM ELECTRIC PLANT FACTORS," NATIONAL COAL ASSOCIATION, 1971 edition);

(d) Feedlot (of more than 1000 head capacity) (as reported in "CATTLE ON FEED," U.S. Department of Agriculture, January, 1972).

Revisions to the above references will be used to recompute the allocation if available prior to the beginning of each fiscal year.

§ 35.552–5 State agency.

The agency designated by the Governor to apply for and receive the State's program grant and responsible for coordinating the water quality control program or primarily responsible for coordinating the State water quality laws.

§ 35.552–6 Interstate agency.

Any agency defined in section 502(2) of the Act which is determined eligible for receipt of a grant under these regulations by the Administrator.

§ 35.552–7 Reasonable cost.

The allowable and allocable costs, up to the level of the annual allocation as determined by the Administrator, of developing and administering a pollution control program by a State or interstate agency consistent with the intent and purposes of the Act.

§ 35.552–8 Interstate segment.

That portion of the area of responsibility of an interstate agency which lies entirely within the borders of a single State.

§ 35.552–9 Recurrent expenditures.

Those expenditures which are identified as being acceptable as recurrent expenditures under generally accepted accounting principles and approved by the Regional Administrator.

§ 35.553 Annual guidance.

EPA will develop and disseminate annual guidance to be used by the States to structure their program for the coming year. The guidance will contain a statement of the national strategy including national objectives and national priorities for the year together with planning figures for Federal program grant assistance based on the EPA budget approved by the President. The guidance will be disseminated within thirty days after the President delivers his budget to Congress.

§ 35.554 State strategy formulation and program development.

§ 35.554–1 State strategy formulation.

Based on (a) current water quality, (b) evaluation of program achievements to date, (c) State plans developed pursuant to Section 303(e) of the Act, and (d) the annual EPA guidance, each State shall prepare an annual State strategy statement. The strategy shall contain:

(1) A statewide assessment of water quality problems and the causes of these problems;

(2) A listing of the geographical and discharger priorities relative to these problems;

(3) A listing of the priorities and scheduling of permits, construction grants, basin plans, and other appropriate program actions including a description of how the strategy has been developed in concert with non-point source control.

§ 35.554–2 State program development.

Each State shall develop, in consultation with the Regional Administrator, a program based on its strategy pursuant to § 35.554–1 (to include defining regional resource support). The essence of the program is relating resources—both Federal and non-Federal—to achieve the expected outputs. Program outputs are then adjusted to conform to resource constraints. To the extent feasible, each State program shall include consideration of efforts in the areas of non-point source control and abatement, and supporting land use control practices. The program shall describe how each major program element fits with the strategy and shall indicate:

(a) the expected outputs to be obtained pursuant to § 35.554–3(b);

(b) the resources to be expended by the State to produce the expected outputs, including anticipated Federal financial and technical assistance; and

(c) an analysis of the previous year's effort. Information on each program element shall be presented in summary form aggregated at the State level.

§ 35.554–3 Major program elements and outputs.

(a) The major program elements are:

(1) Municipal facilities construction, operation, and maintenance

(2) Permits

(3) Planning (to include water quality standards)

(4) Monitoring

(5) Enforcement

(6) Training

(7) Administration

(b) State outputs. Each major program element shall identify the specific outputs to be produced by that activity during the year. Additional program elements and their associated outputs may be addressed in the annual program as deemed appropriate by the State or the Regional Administrator. The major program outputs may include but are not limited to:

(1) *Municipal Facilities Construction, Operation, & Maintenance.* A description of the State priority system, including the criteria used by the State in determining priority of treatment works, and an identification of projects to receive grants for facility planning (step 1), engineering design and specifications (step 2), and construction of facilities (step 3) submitted for approval pursuant to § 35.915 of this chapter.

(i) In determining which projects to fund, the State shall consider the severity of pollution problems, the population affected, the need for preservation of high quality waters, and the national priorities as determined by the Administrator (normally contained in the annual EPA guidance).

(ii) The projects to be funded should be consistent with but need not rigidly follow the ranking of discharges in the municipal discharge inventory developed pursuant to § 130.43 of this chapter; however, projects should be concentrated in the high priority areas.

(iii) Adequate justification must be provided for those projects to be funded which are located in low priority areas (e.g. court orders, critical discharges in low priority segment, etc.).

(iv) The composition of the list of projects to be funded should reflect the guidance contained in the annual EPA guidance.

(v) The list of projects may be revised in accordance with § 35.915.

(2) *Municipal Permits.* Number and identification of municipal permits to be issued by the State for the year covered by the program. The municipal permits to be issued should be determined by the same criteria as described in paragraph (b)(1)(i) of this section.

(3) *Industrial Permits.* Number and identification of industrial permits or permits for other categories to be issued by the State for the year covered by the program. The industrial permits to be issued should be determined by the same criteria as described in paragraph (b)(1)(i) of this section.

(4) *Planning.* Number and identification of plans (by type):

(i) *Basin plans (Section 303(e) of the Act).* The number and priority of plans determined from the schedule for plan preparation developed pursuant to § 130.42 of this chapter and the schedules contained in the strategy developed pursuant to § 35.554–1.

(ii) *Areawide Plans (Section 208 of the Act).* The number and scheduling of areawide management plans pursuant to section 208 of the Act in accordance with the designation criteria set forth in any regulations published to implement section 208.

(iii) *Facility Plans (§ 35.925–1).* The number and priority of facility plans consistent with the priorities contained in the municipal discharge inventory developed pursuant to § 130.43 of this chapter or § 35.915. Required plans are scheduled to permit their completion prior to award of grants for construction (phase 3) projects.

(5) *Monitoring.* Number and identification of monitoring surveys to be done (by type):

(i) *Basin monitoring surveys.* The number and priorities of these surveys determined in conjunction with the schedule for 303(e) basin plans.

(ii) *Compliance Monitoring.* The extent of compliance monitoring related to the number of permits issued and the State's determination of compliance monitoring required to insure that the permit-reporting system is operating.

(iii) *Permanent in-stream monitoring stations.* The number and location of stations required to prepare the annual State water quality inventory required by section 305(b) of the Act.

(6) *Enforcement.* Number of proceedings on actions initiated prior to the passage of the Act; number of enforcement actions to be undertaken, continued, or completed against violators of permit conditions and implementation schedules; and, identification and brief discussion of major actions and proceedings.

(7) *Training.* Number and distribution of waste treatment plant operators to be trained and certified; type of operator training to be received; and, identification of level of training and certification of total operator force.

(8) *Administration.* Identification and description of overall program administration to include major changes to occur during the year.

(c) Section 106(a) of the Act places special emphasis on including enforcement directly or through appropriate State law enforcement officers or agencies as part of the State program. A description of enforcement as a program activity should be included in the State program.

(d) Section 106 of the Act also places special emphasis on monitoring. For the purpose of this regulation, the following brief description of monitoring as a program activity is provided. Further details are set forth in Appendix A to this subpart and § 35.559-6(b)(1).

(1) A minimum monitoring program shall utilize physical, chemical and biological analyses, and shall include:

(i) Intensive surface water monitoring surveys;

(ii) A primary monitoring network;

(iii) Permit compliance monitoring;

(iv) Groundwater quality monitoring;

(v) A means of collecting data for inventories of point and non-point sources of pollution;

(vi) Classification of inland lakes by eutrophic condition;

(vii) Laboratory support and a quality assurance program; and

(viii) A data handling, storage, evaluation and reporting activity.

(2) The State monitoring program shall be carried out in such a manner as to:

(i) Provide support to the Planning Process developed under Part 130 of this chapter;

(ii) Conduct permit compliance monitoring, including spot checks of permitted dischargers, utilizing authorities similar to those provided under Section 308 of the Act and administer the self-monitoring and reporting requirements of the NPDES in States having permit programs approved by the Administrator;

(iii) Provide basic data necessary to update annually the descriptions and analyses required by Section 305(b) of the Act, including specific identification of all State waters suitable for sustaining a balanced population of shellfish, fish and wildlife, and which allow for recreational activities in and on the water;

(iv) Enable the State to describe the extent of their water pollution problem (Section 106(b) of the Act), and to assess the degree of progress in attaining the goals of the Act as required in Section 305(b)(1)(C); and

(v) Define eutrophic status of waters within the State, particularly lakes.

§ 35.555 State program submission.

Each State shall submit to the Regional Administrator:

(a) An initial program by April 15 of each year consisting of (1) the State strategy statement for the coming year (described in § 130.41 of this chapter), which includes its schedule for plan preparation (§ 130.42 of this chapter), its State municipal discharge inventory (§ 130.43 of this chapter), and its State industrial discharge inventory (§ 130.44 of this chapter).

(2) An initial assessment of the outputs which the State estimates it will achieve during the year.

(b) A final program by June 15 of each year. (1) The final program shall be included as part of the grant application, together with such additional information as the Administrator may require. The form and content of the final submission shall be as described in the application narrative, and any additional guidelines which the Administrator may issue from time to time.

(2) The final program shall include an adjustment of State outputs to reflect resource constraints.

(3) Pursuant to the requirements of Office of Management and Budget Circular A-95, the final program shall reflect comments received through the State office with clearing house responsibilities. It shall also present evidence of participation by the agencies responsible for statewide land use planning, or general or comprehensive planning.

§ 35.556 Public participation.

The annual State strategy, priority lists, and proposed outputs shall be the subject of public participation to be completed prior to May 15 of each year. Public hearings must have been held on the list of projects to be funded during the year developed pursuant to § 35.554-3(b)(1), except for the list developed for projects to be funded in FY 74 if time is inadequate to prepare a timely submittal. Results of such participation shall be used as appropriate in preparing the final program submission.

§ 35.557 Program approval.

(a) The Regional Administrator shall act on a State program within thirty days of its receipt, notwithstanding the provisions of § 30.305 of this chapter. Such program shall be approved only if the program satisfies all terms, conditions, and limitations set forth in these regulations, including adequate resources for enforcement directly or through appropriate State law enforcement officers or agencies.

(b) The Regional Administrator may award a grant based on conditional approval of a State program which requires minor changes to qualify for approval. In the event conditional approval is granted, the Regional Administrator shall establish as part of the grant award, a statement of the conditions which must be met to secure final approval and the date by which such conditions shall be met.

§ 35.558 Allocation of funds.

Funds appropriated for each fiscal year will be allocated to States and interstate agencies on the basis of the extent of the pollution problem.

§ 35.558-1 Computation of state allotment ratio.

An allotment ratio will be established for each State.

(a) The initial allotment ratio for FY 1974 will be established according to the ratio of the number of pollution sources in the State compared to the number of pollution sources in the nation.

(b) The initial allotment ratio computed in paragraph (a) of this section will be applied to the first $20 million of sums appropriated to produce a base allocation. The base allocation of any State which falls below the level of its FY 1973 allocation will be restored to the FY 1973 allocation level, using funds from the balance of the appropriation, subject to the availability of funds.

(c) The remainder of the appropriation is then divided among the States in amounts proportional to what was received following the procedure described in § 35.558-1(b). Each State's incentive amount is then subdivided to fund the key program elements identified by the annual EPA guidance.

(d) The State allocation is the sum of its base allocation and all portions of its incentive amount, except that no State may be allocated more than three hundred percent of its FY 1973 grant amount.

§ 35.558-2 Computation of Interstate Allocation.

An amount not less than the FY 1973 level of funding for interstate agencies will be divided among interstate agencies.

§ 35.558-3 Computation of State Allocation.

The table below shows the final allotment ratio for FY 1974 of each State and Interstate after applying the procedures described in § 35.558-1(a)-(d).

FINAL FY 1974 ALLOTMENT RATIO

STATE/ INTERSTATE	*ALLOTMENT RATIO*
Alabama	02663
Alaska	00303
Arizona	00815
Arkansas	01478

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State/ Interstate	Allotment ratio	State/ Interstate	Allotment ratio
California	.05890	New Jersey	.02738
Colorado	.00938	New Mexico	.00578
Connecticut	.01532	New York	.05509
Delaware	.00844	North Carolina	.03072
District of Columbia	.00833	North Dakota	.00433
Florida	.02577	Ohio	.03814
Georgia	.03116	Oklahoma	.01107
Hawaii	.00708	Oregon	.01638
Idaho	.00779	Pennsylvania	.04475
Illinois	.03739	Rhode Island	.01044
Indiana	.02095	South Carolina	.01990
Iowa	.01454	South Dakota	.00449
Kansas	.01055	Tennessee	.01807
Kentucky	.01471	Texas	.03694
Louisiana	.01686	Utah	.00615
Maine	.01102	Vermont	.00497
Maryland	.01687	Virginia	.02515
Massachusetts	.02879	Washington	.02141
Michigan	.03578	West Virginia	.01270
Minnesota	.01873	Wisconsin	.02828
Mississippi	.01488	Wyoming	.00327
Missouri	.01763	American Samoa	.00156
Montana	.00686	Virgin Islands	.00733
Nebraska	.01150		
Nevada	.00350		
New Hampshire	.00679		

State/ Interstate	Allotment Ratio
Guam	.00741
Puerto Rico	.01628
Trust Territories	.00337
ORSANCO	.00671
DRBC	.00444
ISC	.00546
INCOPOT	.00285
NEIWPCC	.00449
SRBC	.00163

§ 35.558–4 Notification of funds.

(a) *Tentative allowances.* No later than April 15 of each year, the Administrator will issue to each Regional Administrator a tentative regional allowance for the next fiscal year. This tentative allowance (planning target) will be based on the amount of the appropriation requested for the next fiscal year. The Regional Administrator shall notify each State and interstate agency of its tentative allotment for the next fiscal year.

(b) *Final allowances.* As soon as practicable after funds are made available, the Administrator will issue to each Regional Administrator a final regional allowance for State and interstate allotments from the funds appropriated for each fiscal year.

(c) *Reallotment.* On October 15 of each year, or as soon thereafter as practicable, the Administrator will issue to each Regional Administrator an allowance derived from reallocation for prior year funds or unused portions of current year funds.

(d) *Computation of Regional allowances.* Tentative or final regional allowances will be the sum of the tentative or final State and interstate allotments with each EPA region.

§ 35.559 Grant amount.

§ 35.559–1 Computation of maximum grant.

(a) *Maximum base grant amount.* Each State shall receive a maximum base grant equal at least to its total grant for FY 73, subject to the availability of funds.

(b) *Maximum incentive grant amount.* Each State shall receive a maximum incentive grant equal to the amount of the allotment, computed in accordance with § 35.558–3, less the maximum base grant computed in paragraph (a) of this section. Each State's incentive amount is divided into amounts to fund the key program elements identified by the annual EPA guidance.

§ 35.559–2 Determination.

Each State and interstate agency shall receive a grant from its final allotment in an amount not to exceed the reasonable cost of carrying out its approved annual program including the cost of enforcement directly or through appropriate State law enforcement officers or agencies.

(a) From the maximum grant amount reserved for each State, grants shall be approved by the Regional Administrator in amounts to be determined by him to fund the base program and the key program functions identified by the EPA annual guidance as being of particular importance to a sound water pollution control program.

(b) The Regional Administrator shall use the initial resource distribution set forth in the maximum grant structure determined for each State (i.e. base amount plus incentive amounts) as the initial basis for approving a grant.

(1) Should a State elect not to operate a permit program under the National Pollution Discharge Elimination System (NPDES—Part 124 of this chapter), the Regional Administrator shall not approve any portion of the funds for the State within that program element. Funds recovered by these procedures will remain within the Region to be available for reallotment to States as the Regional Administrator may direct.

(2) Should a State propose a different funding mix to produce a set of outputs in the annual program, the Regional Administrator may approve the different mix, provided he believes the outputs can be produced. However, if a State fails substantially to produce the outputs to which it was committed in its program, the Regional Administrator may recover the program costs of such outputs up to the amount originally proposed for the particular program element. Recovery may be by reduction of remaining grant payments, reduction of the following year's grant, or by request for repayment. Funds recovered by these procedures will remain within the Region to be available for reallotment to States as the Regional Administrator may direct.

(3) Should a State submit an approvable program and a funding strategy consistent with the mix reflected in the State's maximum grant, the Regional Administrator shall authorize the award of a grant in the amount applied for, consistent with its program developed pursuant to § 35.554–2.

(4) Should the Regional Administrator's evaluation of the State program submission reveal that the output commitment is not consistent with the level of funding requested, he shall negotiate with the State either to increase the output commitment or to reduce the grant amount. Funds freed by this procedure will remain within the region to be available for reallotment to State agencies as the Regional Administrator may direct.

(5) At the end of each program year, unobligated funds will revert to headquarters for reallotment in accordance with § 35.558–4(c).

§ 35.559–3 Reduction of grant amount.

(a) The grantee must submit a complete application on or before June 15, preceding the fiscal year for which the program application is prepared. If the State or interstate agency does not meet this deadline, the grant amount shall be reduced one-sixth of the first six months' available allotment for each full month's delay. This money will be available for reallotment on a national basis.

(b) If the Regional Administrator's program evaluation reveals that the grantee will fail or has failed to achieve outputs programmed (see § 35.554–3), the grant amount may be reduced by the approved estimated program cost to produce such outputs. This money will be available for reallotment to State's within the region.

§ 35.559–4 Grant amount limit and duration.

Following approval of the program the budget period of the grant shall be the entire fiscal year and Federal assistance shall not exceed the allotment limits specified in § 35.448–2 plus reallotments under § 35.558–4(c), § 35.559–2(b) and § 35.559–3(b).

§ 35.559–5 Eligibility.

A grant may be awarded to a State or interstate water pollution control agency which has submitted an application meeting the program requirements of these regulations provided however, that such program has been approved by the appropriate Regional Administrator.

§ 35.559–6 Limitation of award.

(a) No grant shall be made under these regulations to any State or interstate agency for any fiscal year unless the State has certified that the expenditures of non-Federal funds by such State or interstate agency during such fiscal year for the recurrent expenses of carrying out its pollution control program are not less than the expenditures by such State or interstate agency of non-Federal funds for recurrent program expenses during the fiscal year ending June 30, 1971, or the first year of Federal support if such Federal support was initiated subsequent to the fiscal year ending June 30, 1971.

(b) No grant shall be made under these regulations to any State, beginning in fiscal year 1974, which has not provided or is not carrying out as part of its program:

(1) The establishment and operation of appropriate devices, methods, systems, and procedures necessary to

monitor, and to compile and analyze data on (including classification according to eutrophic condition), the quality of navigable waters and to the extent practicable, ground waters including biological monitoring; and provisions for annually updating such data and including it in the report required under Section 305 of the Act. Guidelines are set forth in § 35.554–3 and Appendix A.

(2) Authority comparable to that in Section 504 of the Act, "Emergency Powers," and adequate contingency plans to implement such authority.

(3) The criteria used by the State in determining priorities for municipal construction projects as provided in § 35.915, and for issuance of permits as provided in Part 124 of this chapter.

(4) A provision that such agency shall provide information concerning its program in the form and content that the Regional Administrator may require.

§ 35.559–7 Grant conditions.

In addition to the EPA General Grant Conditions (Appendix A to Subchapter B of this chapter and Part 30, Subpart C, of this chapter) each grant for water pollution control programs shall be subject to the following conditions:

(a) The Regional Administrator may terminate a grant awarded under this subpart pursuant to § 30.903 of this chapter where a Federally assumed enforcement as defined in section 309(a)(2) of the Act is in effect with respect to such State or interstate agency.

(b) The Regional Administrator may terminate a grant awarded under this subpart pursuant to § 30.903 of this chapter where the Administartor has not approved or has revoked approval of the continuing planning process developed under section 303(e) of the Act and any regulation issued by the Administrator thereunder.

§ 35.560 Program evaluation and reporting.

§ 35.560–1 Evaluation.

Program evaluation is primarily a State responsibility and should be done continuously throughout the program year. It is EPA policy to limit evaluation to that which is necessary for responsible management of the national effort to control water pollution. Therefore, joint Federal/State evaluations will be decentralized to the regional level. Each Regional Administrator shall review State programs at least twice each year:

(a) Mid-year evaluation: By January 31 of each year, the Regional Administrator shall conduct a joint on-site evaluation meeting with appropriate State officials to review and evaluate the program accomplishments of the current budget period in accordance with § 35.410 of this Subpart. The Regional Administrator shall report to the Administrator the results of each meeting within thirty working days, together with comments from the State.

(b) End-of-Year-Review: Within thirty days of receipt of the final State program submission and grant application, the Regional Administrator shall review the accomplishments of the program year which is concluded and the accomplishments projected for the coming year, as stated in the submission. His review shall include (but is not limited to):

(1) Effluent reductions achieved
(2) Improvement in ambient water quality
(3) Compliance milestones achieved
(4) Program status
(5) Resource allocation and use

This review is essential to program approval pursuant to § 35.557.

§ 35.560–2 Reports.

The Regional Administrator may modify requirements pertaining to the content or submission schedule of information submissions required by this part.

§§ 35.565, 35.575 [Revoked]

Sections 35.565 and 35.575 are revoked.

APPENDIX A. WATER QUALITY MONITORING—[RESERVED]

APPENDIX B. PROGRAM REPORTING [RESERVED]

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PART III

ENVIRONMENTAL PROTECTION AGENCY

■

GENERAL GRANT REGULATIONS AND PROCEDURES; STATE AND LOCAL ASSISTANCE

■

Interim Regulations

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Title 40—PROTECTION OF ENVIRONMENT

Chapter I—Environmental Protection Agency

SUBCHAPTER B—GRANTS

PART 30—GENERAL GRANT REGULATIONS AND PROCEDURES

PART 35—STATE AND LOCAL ASSISTANCE

Interim Regulations

Interim regulations are hereby promulgated to amend the Environmental Protection Agency general grant regulations (40 CFR Part 30) and to publish a new codification (40 CFR Part 35) of State and local assistance grant regulations (supplementing the general grant regulations). Publication of these regulations is a continuation of an effort to coordinate and conform grant award and administration policies, procedures, and terms for the various EPA grant programs, to improve administration of these grant programs and to furnish applicants, grantees, and the public with a more explicit statement of grant award and administration requirements. Pending legislation, when enacted, will require revision of some portions of these regulations issued under the authority of the Federal Water Pollution Control Act. This codification is intended to provide a framework for development of future regulations.

Included within these regulations is a first amendment to the EPA interim general grant regulations (40 CFR Part 30) which were promulgated on November 27, 1971 (36 F.R. 22716) and became effective on January 1, 1972. This amendment, which does not substantially change the provisions of Part 30, consists of technical revisions, corrections of typographical errors, and clarifications found necessary to improve the administration of EPA grant programs.

In addition, a new Part 35 is promulgated which contains supplemental grant regulations for all EPA State and local assistance grants. All EPA grants to State and local public agencies (other than grants principally for research, demonstration projects, and training) awarded after the effective date of Part 35 shall be subject to these regulations. For the most part, these regulations constitute a more explicit statement of prior regulations or of previously uncodified policies, procedures, and terms of the respective grant programs. Most changes are attributable to the effort to coordinate and conform EPA grant policies and procedures.

The State and local assistance grant program regulations in effect at the time of recodification of EPA regulations into Title 40 of the Code of Federal Regulations on November 25, 1971, were removed from the Code of Federal Regulations (36 F.R. 22369). These regulations, which were maintained as uncodified regulations and will continue to remain in effect for State and local assistance grants awarded prior to July 1, 1972, to the extent such regulations are not inconsistent with the EPA general grant regulations (40 CFR Part 30), are:

Title 18, Part 601 (Jan. 1, 1971, ed., as amended at 36 F.R. 1467 to revise § 601.7, at 36 F.R. 8606 to revise § 601.22, at 36 F.R. 13029 to revise § 601.25(b), and at 36 F.R. 1467 to revise § 601.65(a)(9))—Grants for water pollution control.

Title 42, Part 456 (Jan. 1, 1971, ed.)—Grants for air pollution control programs.

Title 42, Part 460 (Jan. 1, 1971, ed., as amended at 36 F.R. 18622 to revise Part 460)—General Provisions Applicable to Grants under sections 204, 205, 207, 208, and 210 of the Solid Waste Disposal Act.

Title 42, Part 463 (added at 36 F.R. 18626)—Grants for Planning under section 207 of the Solid Waste Disposal Act.

However, the State and local assistance grant regulations promulgated hereby (40 CFR Part 35) may be made applicable to such grants awarded prior to July 1, 1972, in place of the above-mentioned uncodified regulations by explicit incorporation through grant amendment pursuant to 40 CFR 30.901.

All State and local assistance grants, including continuation grants (see 40 CFR 30.306), awarded on or after July 1, 1972, will be subject to the EPA general grant regulations (40 CFR Part 30) and to the appropriate subpart(s) of the supplemental grant regulations published herewith (40 CFR Part 35).

Interested parties and Government agencies are encouraged to submit written comments, views, or data concerning the regulations promulgated hereby to the Director, Grants Administration Division, Environmental Protection Agency, Washington, D.C. 20460. All such submissions received on or before September 29, 1972, will be considered prior to the promulgation of final EPA general or supplemental grant regulations. Suggestions for changes to the regulations promulgated in this subchapter are solicited on a continuous basis pursuant to 40 CFR 30.106.

Effective date. The amendments to Part 30 (Interim General Grant Regulations and Procedures) and the interim State and local assistance grant regulations and procedures of the new Part 35 promulgated hereby shall become effective on July 1, 1972. All Environmental Protection Agency grants awarded on or after July 1, 1972, shall be subject to the interim general grant regulations and procedures of 40 CFR Part 30, as hereby amended. All State and local assistance grants of the Environmental Protection Agency awarded on or after July 1, 1972, shall also be subject to the interim State and local assistance regulations and procedures of 40 CFR Part 35.

Dated: June 5, 1972.

ROBERT W. PIpremier,
Deputy Administrator.

Pursuant to the authorities cited in 40 CFR 30.101, Part 30 is amended as follows:

§ 30.102 [Amended]

Section 30.102. Delete the eighth word "will" in the first sentence.

§ 30.107 [Amended]

Section 30.107. Correct the room number in the Region II address from Room "847" to Room "908." Correct the ZIP Code for the Region VI office in Dallas, Tex., to "75201." Delete the address for the Region VII office and substitute "Room 249, 1735 Baltimore Avenue, Kansas City, MO 64108."

§ 30.300-1 [Amended]

Section 30.300-1. Delete "the requirements of this regulation" from the first sentence and substitute "the application requirements of this Subchapter" and delete the last seven words in the first sentence "such forms as the Administrator shall prescribe" and substitute "EPA Form 5700-12."

§ 30.301-4 [Amended]

Section 30.301-4. Delete the reference to Catalog No. "66.301" and to the program identification "Solid Waste Planning Grants" from the listing under paragraph (a) and add as the second item in the listing under paragraph (b) a reference to Catalog No. "66.301" and to the program identification "Solid Waste Planning Grants". Applications for Solid Waste Planning Grants should now be addressed to the appropriate EPA Regional office, Grants Administration Branch.

§ 30.305 [Amended]

Section 30.305. Delete the tenth word "or" in the last sentence and substitute therefor "for".

§ 30.401 [Amended]

Section 30.401. In paragraph (c), delete the words "race, color, religion, sex, or national origin" and substitute therefor "race, color or national origin". In paragraph (g), delete the reference to the OMB circular at the end of the sentence, and substitute "OMB Circular No. A-95 (Rev. February 9, 1971, as revised through Transmittal Memorandum No. 2, March 8, 1972)." In paragraph (h), delete the references to the two OMB circulars at the end of the sentence and substitute "OMB Circular No. A-95 (Rev. February 9, 1971, as revised through Transmittal Memorandum No. 2, March 8, 1972) and OMB Circular No. A-95 (June 5, 1970)."

§ 30.402 [Amended]

Section 30.402. Delete the first sentence and substitute the following as the new first sentence: "EPA grant funds shall be paid in advance or by way of reimbursement for allowable project costs, in the manner provided by this Subchapter and in the grant agreement."

§ 30.403 [Amended]

Section 30.403. Delete the matter in parentheses at the end of the second

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sentence and substitute "(in accordance with OMB Circular No. A-102)."

§ 30.901 [Amended]

Section 30.901. Delete the following words from the second sentence: "by the Project Manager on behalf of the Grantee" and substitute therefor "by an authorized representative of the Grantee".

§ 30.1000-1 [Amended]

Section 30.1000-1. Delete the sentence and substitute the following: "The Administrator of the Environmental Protection Agency, or his delegee. The term 'Regional Administrator' refers to the Regional Administrators of the 10 EPA regions, or their delegees".

Appendix A to Subchapter B—Delete the following words from General Grant Condition No. 8: "Executive Orders and".

PART 35—GRANTS FOR POLLUTION CONTROL AND ABATEMENT PROGRAMS

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Authority: The provisions of this Part 35 issued under the authorities cited in §§ 35.201, 35.401, 35.601 and 35.801.

§ 35.001 Purpose of regulations.

This part establishes and codifies policies and procedures governing the award of State and local assistance grants by the Environmental Protection Agency.

§ 35.002 Applicability and scope.

This part establishes mandatory policies and procedures for all EPA State and local assistance grants. The provisions of this part supplement the EPA general grant regulations and procedures (40 CFR Part 30). Accordingly, all EPA State and local assistance grants are awarded subject to the EPA interim general grant regulations and procedures (40 CFR Part 30) and to the applicable provisions of this Part 35.

Subpart A—Planning Grants

Water Pollution Control Planning Requirements

§ 35.150 Applicability.

The requirements of basin control and regional and metropolitan plans apply to:

(a) Water pollution control comprehensive basin plans pursuant to § 35.225;

(b) Basinwide plans and regional and metropolitan plans as required by §§ 35.835-2 and 35.835-3 of Subpart C for waste water treatment works construction grants.

§ 35.150-1 Basin control plans.

Any basinwide plan for the control or abatement of water pollution must adequately take into account all, or such as may be appropriate, of the following:

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(a) *Sources of pollution.* An identification list of all significant point sources of waste discharges (municipal, industrial, agricultural, and others) and of all significant nonpoint sources of water quality degradation.

(b) *Volume of discharge.* The average daily volume of discharge produced by each waste discharger. Cooling water, or cooling water which is contaminated by industrial waste or sewage shall be reported separately. Storm water and mixed storm water and sewage shall be identified and reported separately in terms of frequency-volume relationships.

(c) *Character of effluent.* The major characteristics of each such waste discharge together with a measurement of their relative strength or concentrations including but not limited to:

BOD 5	mg./l.
COD	mg./l.
Color	Platinum cobalt scale.
Turbidity	Jackson candle scale.
Solids	mg./l.
Toxic substances	
Metal ions	mg./l.
Fluorides	mg./l.
Dissolved substances	p.p.m.
Temperature	°
pH	
Radioactivity	pCi/l.
Chlorides	mg./l.
Nutrients	mg./l.

(d) *Present treatment.* A brief description of the type of treatment being given by each discharger, together with a statement of the degree of treatment currently being achieved.

(e) *Water quality effect.* A brief description of the effect of discharges and abatement practices upon the quality of the water in the basin, and the anticipated effectiveness of the projects or activities proposed to improve the quality of the water.

(f) *Detailed abatement program.* Identify all waste discharges for which present treatment is less than required by approved water quality standards, or which will degrade water quality below standards. For each such discharge so identified, furnish an abatement schedule containing the following:

(1) Level of treatment to be required expressed in percentage of reduction of BOD and or any other significant parameters required pursuant to applicable Federal, State, and interstate laws, regulations, and orders.

(2) Volume of flow for which waste treatment facilities will be designed.

(3) Estimated completion dates for preliminary plans, for final design, for construction, and for operation of waste treatment facilities.

(4) Estimated cost of design and construction if available.

(5) Identification of agencies or entities responsible for abatement actions or implementation of the recommended abatement program with respect to each such discharge.

§ 35.150–2 Regional and metropolitan plans.

Any regional or metropolitan plan for the prevention, control, or abatement of water pollution must adequately take into account:

(a) Anticipated growth of population and economic activity with reference to time and location.

(b) Present and future use and value of the waters within the planning area for domestic water supplies, propagation of fish and wildlife, recreational purposes, agricultural, industrial, and other legitimate uses.

(c) Adequacy of the waste collection systems in the planning area with reference to operation, maintenance, and expansion of such systems.

(d) Combination or integration of waste treatment facilities into a waste treatment system so as to achieve efficiency and economy of such treatment.

(e) Practicality and feasibility of treating domestic and industrial waste in a combined waste treatment facility or integrated waste treatment system.

(f) Need for and capacity to deal with: waste from sewers which carry storm water or both storm water and sewage or other wastes.

(g) Waste discharges presently in, or anticipated for the planning area.

(h) Effect of proposed waste treatment facilities upon the quality of the water within the planning area with reference to other waste discharges and to applicable water quality standards.

(i) Institutional arrangements necessary to implement the plan.

WATER QUALITY MANAGEMENT PLANNING GRANTS

§ 35.200 Purpose.

These provisions establish and codify policies and procedures for grants to planning agencies for the development of comprehensive water pollution control and abatement plans for basins. These provisions supplement the EPA general grant regulations (40 CFR Part 30).

§ 35.201 Authority.

These provisions for water quality planning grants are issued under section 3(c) of the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1153(c).

§ 35.202 Definitions.

As used herein, the following words and terms shall have the meaning set forth below:

§ 35.202–1 Administrative expenses.

Approved allowable costs incurred for the development of a water pollution control comprehensive basin plan pursuant to § 35.225.

§ 35.202–2 Basin.

A planning area. A basin includes, but is not limited to, rivers and their tributaries, streams, coastal waters, sounds, estuaries, bays, lakes, and portions thereof as well as lands drained thereby, and discrete deposits of subsurface water.

§ 35.202–3 State.

A State, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, and Guam.

§ 35.205–4 Grant limitations.

Water quality management planning grants shall be subject to the following limitations:

(a) No grant may exceed 50 per centum of the administrative expenses of the planning agency.

(b) No project period may exceed 3 years, beginning with the project commencement date approved at the time of initial grant award.

§ 35.210 Eligibility.

To be eligible for a water quality management planning grant, a planning agency must:

(a) Be designated by the Governor of the State or (where the basin includes portions of more than one State) by the majority of Governors of the States, as the agency having primary responsibility for water quality planning in the basin.

(b) Be an entity of government legally constituted or authorized under the laws of the State or States in which the basin for which it has planning responsibility is located.

§ 35.215 Application requirements.

An application for a water quality management planning grant shall be submitted in accordance with 40 CFR 30.301 through 30.301–5 to the appropriate Regional Administrator and shall:

(a) Include a letter from the Governor or, when more than one State is involved, the majority of Governors of the States, designating the applicant as the planning agency having primary responsibility for water quality planning in the basin.

(b) Include a work plan which contains the following information:

(1) Explanation of the need for the planning study.

(2) Description of the objectives and scope of the study.

(3) Background information on the basin and the water pollution problem in the basin.

(4) Description of the manner in which the planning study will be conducted and the methodology to be used.

(5) Description of the action to be taken by agencies other than the applicant participating in the study.

(6) Schedule of work to be accomplished.

(7) Detailed cost and resource budget.

(8) Identification of anticipated subagreements.

(c) Indicate the applicant's capability, including all necessary resources, powers, authority, and jurisdiction to develop a water pollution control comprehensive basin plan.

(d) Provide for the continuing participation of public and private State, interstate, local, and (where appropriate) international officials and interests in the basin throughout the planning process.

(e) Give assurance that the planning program will develop recommendations for maintaining and improving water quality standards in the basin in accordance with the requirements of the Federal Water Pollution Control Act.

§ 35.220 *Criteria for award.*

In determining the desirability and extent of funding for a project and relative merit of an application, consideration will be given to the following criteria:

(a) The severity of the water pollution problem in the basin and the extent to which the proposed planning will contribute to its control;

(b) The population affected by the water pollution problem in the basin and the per capita cost of the proposed planning;

(c) Whether the proposed planning will provide the opportunity to make substantial advances in the comprehensive, basinwide management of pollution control;

(d) The extent of the need in the basin for more detailed plans or coordinated programs, including financial and other institutional arrangements to complement or carry out comprehensive basin planning; and

(e) The existence and extent of support by public and private interests in the basin for water pollution control planning and implementation.

§ 35.225 *Water pollution control comprehensive basin plan.*

Each planning agency receiving a water quality management planning grant shall develop and submit to the Regional Administrator within the approved project period, a water pollution control comprehensive basin plan which:

(a) Is consistent with applicable Federal and State water quality standards and objectives;

(b) Recommends such treatment works and sewer systems as will provide the most effective and economical means of collection, storage, treatment, and purification of wastes and recommends means to encourage both municipal and industrial use of such works and systems;

(c) Recommends methods of adequately financing those facilities as may be necessary to implement the plan;

(d) Provides for continuing participation of public and private, State, interstate, local, and (where appropriate) international interests in water quality management planning in the basin; and

(e) Meets the requirements for water pollution control planning set forth in § 35.150.

(f) Recommends administrative and organization systems and procedures necessary to implement the plan.

§ 35.230 *Reports.*

§ 35.230–1 *Report of project expenditures.*

No later than 90 days following the end of each budget period, the grantee planning agency shall submit to the Regional Administrator a report of project expenditures.

§ 35.230–2 *Interim plan.*

The grant agreement may require the submission of an interim water pollution control comprehensive basin plan prior to the end of the project period.

§ 35.240 *Continuation grant.*

To be eligible for a continuation grant for a second or third budget period within the approved project period, the grantee planning agency must:

(a) Having demonstrated satisfactory performance during all previous budget periods; and

(b) Submit no later than 30 days prior to the end of the budget period a continuation application which includes a detailed progress report, an estimated financial statement for the current budget period, a budget for the new budget period, and an updated work plan revised to account for actual progress accomplished during the current budget period.

SOLID WASTE PLANNING GRANTS

§ 35.300 *Purpose.*

These provisions establish and codify policies and procedures for grants for solid waste planning projects. These provisions supplement the EPA general grant regulations (40 CFR Part 30).

§ 35.301 *Authority.*

These provisions for solid waste planning grants are issued under section 207 of the Solid Waste Disposal Act as amended, 42 U.S.C. 3254a.

§ 35.302 *Definitions.*

As used herein, the following words and terms shall have the meaning set forth below:

§ 35.302–1 *Intermunicipal agency.*

An agency established by two or more municipalities with responsibility for planning or administration of solid waste disposal.

§ 35.302–2 *Interstate agency.*

An agency of two or more municipalities in different States, or an agency established by two or more States, with authority to provide for the disposal of solid wastes and serving two or more municipalities located in different States.

§ 35.302–3 *Municipality.*

A city, town, borough, county, parish, district, or other public body created by or pursuant to State law with responsibility for the planning or administration of solid waste disposal, or an Indian tribe.

§ 35.302–4 *Solid waste.*

Garbage, refuse, and other discarded solid materials, including solid waste materials resulting from industrial, commercial, and agricultural operations, and from community activities, but does not include solids or dissolved material in domestic sewage or other significant pollutants in water resources, such as silt, dissolved or suspended solids in industrial wastewater effluents, dissolved materials in irrigation return flows or other common water pollutants.

§ 35.302–5 *Solid waste disposal.*

The collection, storage, treatment, utilization, processing, or final disposal of solid waste.

§ 35.302–6 *State.*

A State, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, and American Samoa.

§ 35.304 *Solid waste planning projects.*

Solid waste planning grants may be awarded for either or both:

§ 35.304–1 *Management planning.*

Management planning concentrates on alternative institutional arrangements for regulating, operating, and financing an environmentally sound solid waste management system. Examples of management planning include:

(a) Local and regional planning which results in the implementation of a self-financed solid waste agency which will adequately protect the environment.

(b) Local and regional planning which results in the establishment of a solid waste regulatory authority which may then operate or franchise for collection, processing, or disposal of solid waste in an environmentally sound manner.

(c) State planning to develop a comprehensive State Solid Waste Management Plan which results in State actions to enable regional or local units to finance and manage waste systems efficiently and in a manner protective of the environment, and recommends alternative State regulatory, financial assistance, and technical assistance roles with local units.

§ 35.304–2 *Special purpose planning.*

Special purpose planning concentrates on how specific components of a solid waste management system can be developed or improved. Examples of special purpose planning include:

(a) Local and regional planning which results in closing open dumps and implementing a new sanitary landfill, and is consistent with any applicable comprehensive solid waste management plan.

(b) Local and regional planning which results in improved collection service and is consistent with any applicable comprehensive solid waste management plan.

(c) State planning which results in the handling and processing of abandoned or discarded motor vehicles in an environmentally sound manner.

(d) State planning which results in a strategy and methodology for enforcing existing State bans on poor solid waste management practices, e.g., open dumping.

§ 35.305 *Grant limitations.*

Solid waste planning grants shall be subject to the following limitations:

(a) No grant may exceed 75 percent of the allowable cost of a project pertaining to an area which includes more than one municipality.

(b) No grant may exceed 66⅔ percent of the allowable cost of a project pertaining to an area which includes only one municipality.

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(c) No project period may exceed 2 years, beginning with the project commencement date approved at the time of initial grant award.

§ 35.310 Eligibility.

To be eligible for a solid waste planning grant, an applicant must:

(a) Be a State, interstate, municipal, intermunicipal agency, or organization composed of public officials which is eligible for assistance under section 701(g) of the Housing Act of 1954 (40 U.S.C. 461(g)); or

(b) Have been designated as the sole agency responsible for carrying out the purposes of section 207 of the Solid Waste Disposal Act for the area involved. Designation of State agencies is by the Governor; *Provided*, That local and regional applicants, may be designated by the State solid waste management agency designated by the Governor.

§ 35.315 Application.

§ 35.315-1 Preapplication procedures.

(a) An informal preapplication should be submitted to the appropriate Regional Administrator prior to formal application.

(b) Such preapplication may be in letter form, must be brief (less than five pages) and should generally include:

(1) A description of the applicant agency and its jurisdictions;

(2) The proportion of the project devoted to management planning or special purpose planning;

(3) The objectives of the project;

(4) A brief description of the ability to meet mandatory criteria, the evaluative criteria, and the legal requirements.

(5) Estimated total costs, schedule of the project, expected outputs, and requested Federal share.

(c) Preapplications will be reviewed by the EPA Regional Office within 30 days of receipt to determine eligibility and general technical merit.

(d) Preapplications should be developed in consultation with State solid waste agencies and local agencies to be affected by the project.

§ 35.315-2 Application requirements.

An application for a solid waste planning grant shall be submitted in accordance with 40 CFR 30.301 through 30.301-5 to the appropriate Regional Administrator and shall:

(a) Include a letter from the Governor or State solid waste management agency designating the applicant as the sole agency responsible for carrying out the purposes of section 207 of the Solid Waste Disposal Act for the area involved.

(b) Include a work plan which contains the following information:

(1) Explanation and scheduling of the tasks to be performed.

(2) Identification of which unit will perform each task.

(3) Estimation of the costs per task.

(4) Identification of all subagreements.

(c) Identify the steps necessary to implement the recommendations of the plan.

(d) Indicate provision for active involvement of local officials, key managers of publicly and privately owned solid waste agencies and other affected agencies (e.g., public works departments, sanitation districts, existing utilities, etc.), local officials, and the general public during the entire planning process.

(e) Provide for the assignment of a full-time, qualified project director and other appropriate staff to the project. A part-time project director may be adequate for small rural projects.

(f) Schedule conformance to State and local regulations governing solid waste management, e.g., bans on open dumping. Where regulations or ordinances do not exist, assurance must be given that action taken under the grant will contribute to the elimination of offensive practices harmful to the environment.

(g) Assure that the planning of solid waste disposal will be coordinated with and not duplicate other related State, interstate, regional, and local planning activities, including those financed in part with funds pursuant to section 701 of the Housing Act of 1954 (40 U.S.C. 461).

§ 35.320 Criteria for award.

In determining the desirability and extent of funding for a project and priority of an application, the Regional Administrator will consider the following criteria:

§ 35.320-1 All applications.

(a) Priority will be given to management planning projects over special purpose planning projects.

(b) All other factors being equal, priority will be given to applicants supplying a greater proportion of non-Federal funding support over those supplying the minimum required non-Federal support.

(c) Priority will be given to applications which show that data collection is carefully limited to the purposes of the plan over those which have excessive date collection tasks.

(d) Priority will be given to applications according to the level of progress of their respective State solid waste management plans (e.g., progressing satisfactorily, completed and accepted by EPA, adopted by the Governor).

(e) Priority will be given to plans to be developed primarily by the applicant's staff over projects relying heavily on contractual outside services.

§ 35.320-2 State applications.

The following additional criteria will apply to State applications:

(a) *For management planning projects.* (1) Priority will generally be given to applications which illustrate an awareness of the management and financing options which could be utilized at the State, local, and regional levels.

(b) *For special purpose planning projects.* (1) Priority will be given to States which have completed, adopted, and implemented a solid waste management plan accepted by EPA.

(2) Priority will be given to applicants who exhibit a high level of understanding of the problems to be addressed.

§ 35.320-3 Local and regional applications.

The following additional criteria will apply to local and regional applications:

(a) Highest priority will be given to applicants who can implement positive improvements in solid waste management.

(b) Priority will be given to areawide planning, that is, planning for an area which is economically, socially, geographically, and environmentally related and which is appropriate for purposes of a solid waste planning project.

(c) If the applicant cannot directly implement recommendations of the plan.

(1) Priority among management planning projects will be given to applicants who have the following capabilities.

(i) *Organizational capabilities.* State and local ordinances which allow alternative approaches to solid waste management (e.g., regional solid waste regulatory authority, solid waste public or private utility, publicly owned and operated system).

(ii) *Financing capabilities.* State and local ordinances which regulate solid waste management functions, such as incineration, land disposal, and collection.

(2) Priority among special purpose planning projects will be given to applicants who have:

(i) Shown that the special purpose planning is coordinated with a completed solid waste management plan.

(ii) Shown why special purpose planning is appropriate, if a comprehensive solid waste management plan has not been developed.

§ 35.330 Reports.

§ 35.330-1 Progress reports.

The grant agreement may require the submission of a brief (less than five pages) progress report after the end of each quarter of the budget period. This progress report must show in chart or in a narrative format the progress achieved on each task in relation to the approved schedule and project milestones. Special problems and delays should be explained. The more detailed progress report included with applications for continuation grants may be used in lieu of a third-quarter report for projects having 1-year budget periods.

§ 35.330-2 Report of project expenditures.

No later than 90 days following the end of each budget period, the grantee planning agency shall submit to the Regional Administrator a report of project expenditures.

§ 35.330-3 Final report.

The grantee shall submit a final report for approval prior to the end of the approved project period. The report shall document project activities over the entire period of grant support and shall present in complete detail all technical aspects, negative and positive, toward the achievement of the stated purposes and

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objectives, and shall include the plan developed for solution of the solid waste management problems. The plan shall be based upon the project findings, data analyses, and conclusions, and shall include specific recommendations for action and implementation. The final report shall reflect or include EPA comment. One set of reproducible copy suitable for printing and such other copies as may be stipulated in the grant agreement shall be promptly transmitted to the Regional Administrator.

§ 35.340 Continuation grant.

To be eligible for a continuation grant within the approved project period, the grantee planning agency must:

(a) Have demonstrated satisfactory performance during all previous budget periods; and

(b) Submit no later than 30 days prior to the end of the budget period a continuation application which includes a detailed progress report, an estimated financial statement for the current budget period, a budget for the new budget period, and an updated work plan revised to account for actual progress accomplished during the current budget period.

Subpart B—Program Grants

§ 35.400 Purpose.

This subpart, which establishes and codifies policy and procedures for air and water pollution control program assistance grants, supplements the EPA general grant regulations and procedures (40 CFR Part 30) and is applicable to all program grants. These grants are intended to aid programs for the prevention and control of air or water pollution at the State, interstate, or local level.

§ 35.400-1 Grants may be awarded to air pollution control agencies and interstate planning agencies.

Grants may be awarded to air pollution control agencies for the planning, development, establishment, improvement, and maintenance of programs for the prevention and control of air pollution or implementation of national primary and secondary ambient air quality standards. Grants may be awarded to interstate planning agencies for the development of implementation plans for any interstate air quality control region.

§ 35.400-2 Grants may be awarded to State and interstate water pollution control agencies.

Grants may be awarded to State and interstate water pollution control agencies for the establishment and maintenance of adequate programs for the prevention and control of water pollution, including the training of personnel of public agencies.

§ 35.401 Authority.

This subpart is issued under sections 105 and 106 of the Clean Air Act, as amended, 42 U.S.C. 1857c and 1857c-1, and section 7 of the Federal Water Pollution Control Act as amended, 33 U.S.C. 1157.

§ 35.405 Criteria for evaluation of program objectives.

(a) Program descriptions or plans set out in the application and submitted in accordance with these regulations shall be evaluated to determine:

(1) Consistency and compatibility of goals and expected results with national and regional programs in implementing purposes and policies of the Clean Air Act or the Federal Water Pollution Control Act, as amended.

(2) Feasibility of achieving goals and expected results in relation to existing problems, program authority, organization, resources, and procedures.

(b) Approval of the program description or plan developed pursuant to § 35.525 or § 35.575 will be based on the extent to which the applicant's program satisfies the above criteria.

§ 35.410 Evaluation of program performance.

(a) An annual program performance evaluation shall be conducted by the appropriate Regional Administrator and the grantee to provide a basis for measuring progress toward achievement of the approved program objectives described in the program description or plan. The evaluation shall be limited to the objectives, responsibilities, authorized functions, and other related activities set forth in the grantee's approved program plan or description.

(b) The Regional Administrator shall complete the program evaluation no later than 120 days before the beginning of a new budget period. The Regional Administrator shall prepare a summary of the joint evaluation findings. The grantee shall be allowed 15 days to concur or comment on the findings.

§ 35.415 Report of project expenditures.

Within 90 days after the end of each budget period, the grantee shall submit to the Regional Administrator an annual report of expenditures, which shall include all funds, Federal and non-Federal, expended during the budget period.

§ 35.420 Payment.

Grant payments shall be made quarterly in advance. Grant payments shall be made on a cumulative basis not to exceed 20 percent of the grant amount for the first quarter, 30 percent for the second quarter, 20 percent for the third quarter, and 30 percent for the fourth quarter of the budget period. No payment shall be made prior to grant award.

Air Pollution Control Program Grants

§ 35.501 Definitions.

As used herein, the following words and terms shall have the meaning set forth below:

§ 35.501-1 Air pollution.

The presence in the outdoor atmosphere of any dust, fumes, mist, smoke, other particulate matter, vapor, gas, odorous substances, or a combination thereof, in sufficient quantities and of such characteristics and duration as to be, or likely to be, injurious to health or welfare, animal or plant life, or property, or as to interfere with the enjoyment of life or property.

§ 35.501-2 Air pollution control agency.

Any of the following:

(a) *State air pollution control agency.* A single State agency designated by the Governor of that State as the State agency with substantial responsibility for the prevention and control of air pollution within the State;

(b) *Interstate air pollution control agency.* An agency established by two or more States and having substantial powers or duties pertaining to the prevention and control of air pollution;

(c) *Municipal air pollution control agency.* A city, county, or other local government agency responsible for enforcing ordinances or laws relating to the prevention and control of air pollution.

(d) *Intermunicipal air pollution control agency.* An agency of two or more municipalities located in the same State or in different States and having substantial powers or duties pertaining to the prevention and control of air pollution.

§ 35.501-3 Air pollution control program.

A program for the prevention and control of air pollution or the implementation, maintenance, and enforcement of national primary and secondary ambient air quality standards.

§ 35.501-4 Air quality control region.

An area designated or established pursuant to section 107 of the Clean Air Act, 42 U.S.C. 1857c-2.

§ 35.501-5 Implementation plan.

The implementation plan, or revision thereof, which has been approved under section 110(a) of the Clean Air Act (42 U.S.C. 1857c-5(a)), and which implements a national primary or secondary ambient air quality standard in a State or portion thereof.

§ 35.501-6 Interstate air quality control region.

A geographic area, designated under section 107 of the Clean Air Act, that includes areas in two or more States.

§ 35.501-7 Interstate planning agency.

An agency legally constituted under the laws of two or more States having all powers necessary to carry out a planning project in accordance with section 106 of the Clean Air Act, and designated by the Governor of each State as the official air pollution control planning agency for the area of jurisdiction within such State covered by the project.

§ 35.501-8 Maintenance program.

A program of an air pollution control agency that as a minimum has attained

the level of operation set forth in § 35.525–2.

§ 35.501–9 Municipality.

A city, town, borough, county, parish, district, or other public body created by or pursuant to State law.

§ 35.501–10 Nonrecurrent expenditures.

Expenditures which include:

(a) The amount by which the annual cost of the purchases of individual items of equipment, each costing over $2,500, exceed the average of such purchases for the 3 preceding fiscal years. Nonrecurrent equipment purchases may be depreciated over the anticipated useful life of the equipment.

(b) Costs of projects supported under grants authorized by sections of the Clean Air Act other than section 105.

§ 35.501–11 Premaintenance program.

An undertaking to plan, develop, establish, or improve an air pollution control program having comprehensive objectives and schedules for growth and which will qualify the undertaking as a maintenance program at the end of the project period.

§ 35.501–12 Program description.

A comprehensive narrative statement of objectives for the prevention and control of air pollution; for the implementation, maintenance, and enforcement of national primary and secondary ambient air quality standards or for the development of an implementation plan; and of the proposed measures to achieve these objectives.

§ 35.501–13 State.

A State, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, and American Samoa.

§ 35.505 Allocation of funds.

(a) *Tentative allowances.* No later than April 1 of each year, the Administrator will issue to each Regional Administrator a tentative regional allowance for the next fiscal year. This tentative allowance (planning target) will be based on the amount of the appropriation requested for the next fiscal year. The Regional Administrator shall promptly notify each State agency of the tentative allotment for the State for the next fiscal year.

(b) *Final allowances.* As soon as practicable, after funds are made available, the Administrator will issue to each Regional Administrator a final regional allowance for State allotment of the funds appropriated for each fiscal year.

(c) *Determination.* Regional allowances and State allotments shall be the sum of the amounts required to support State and local programs which meet the requirements of § 35.525 and shall, so far as practicable, be determined by (1) the population served by a program, (2) the extent of the actual or potential air pollution problem within a program's area of jurisdiction, (3) the financial need of the applicant, and (4) the impact of the program's activities upon national priorities and objectives existing at the time. The allotment for any one State may not exceed an amount equal to 10 percent of the funds appropriated for the purposes of section 105(a) of the Clean Air Act in any one fiscal year.

(d) *Reallotment.* By October 15 of each year, or as soon thereafter as practicable, the Administrator will issue to each Regional Administrator an allowance derived from reallotment of prior year funds.

§ 35.507 Federal assistance for agency programs.

§ 35.507–1 Limitations on assistance.

(a) *Control programs.* Subject to the availability of funds, the criteria contained in § 35.520, and in accordance with the schedule of Federal support (§ 35.507–3), the Regional Administrator may award a grant for:

(1) *Premaintenance programs.* (i) Up to two-thirds of the allowable costs for any air pollution control agency (see § 30.701 of this chapter).

(ii) Up to three-fourths of the allowable costs for any air pollution control agency as defined in § 35.501–2 (a), (b), and (d).

(2) *Maintenance programs.* (i) Up to one-half of the allowable costs for any air pollution control agency.

(ii) Up to three-fifths of the allowable costs for any air pollution control agency as defined in § 35.501–2 (a), (b), and (d).

(b) *Interstate planning.* Subject to the availability of funds, and the criteria contained in § 35.520–2, the Regional Administrator may award a grant to an interstate planning agency as defined in § 35.501–8 in an amount up to 95 percent of the estimated air quality planning program costs for an initial 2-year period. Thereafter, the Regional Administrator is authorized to support such interstate planning agencies in an amount up to three-fourths of the estimated air quality planning program costs.

§ 35.507–2 Limitations on duration.

(a) *Project period.*—(1) *Premaintenance programs.* The project period for premaintenance programs shall be a period of time expressed in years that is mutually agreeable to the Regional Administrator and the control agency, but shall not exceed 6 years. The project period shall be based on the program goals identified in the program description of the initial premaintenance grant application. The Regional Administrator may extend the project period once for a period of 1 year. Subsequently, no further Federal support will be available to the control agency at the premaintenance program level.

(2) *Maintenance programs.* The project period for maintenance programs shall be unlimited provided that such programs continue at a maintenance level. Federal support may be suspended or terminated if a maintenance program ceases to qualify under § 35.525–2.

(3) *Interstate planning.* The project period for interstate planning shall be a period of time expressed in years that is mutually agreeable to the Regional Administrator and the interstate agency, but shall not exceed 3 years. The project period shall be based on the program goals identified in the program description of the planning grant application. The Regional Administrator may extend the project period once for a period of 1 year.

(b) *Budget periods.* The budget period of any grant awarded to support a premaintenance or maintenance program or an interstate planning agency shall be for a period of 12 months and shall be coterminous with the grantee agency's fiscal year.

§ 35.507–3 Schedule of Federal support.

Type agency	Year of support [1]	Maximum federal funds [2]
		(Percent)
Municipal [3] (§ 35.505 Unit (1)(i)) [4]	1	100
	2	75
	3	50
	4	25
	All over 4	0
State, intermunicipal and interstate [3] (§35.505 Unit (1)(ii)) [4]	1	200
	2	150
	3	100
	4	50
	All over 4	0
Municipal [5] (§ 35.505 Unit (1)(i)) [6]	1	200
	2	200
	3	150
	4	100
	5	75
	6	50
	7	[7] 25
State, intermunicipal and interstate [5] (§35.505 Unit (1)(ii)) [6]	1	300
	2	300
	3	250
	4	200
	5	150
	6	100
	7	[7] 50
Municipal (§35.505 Unit (2)(i)) [8]	All	100
State, intermunicipal and interstate (§35.505 Unit (2)(ii)) [8]	All	150

[1] Year of support starting May 1, 1972, or later.

[2] Expressed as a percent of local funds.

[3] For agencies which have received Federal support under section 105 of the Act, for three or more complete budget periods between July 1, 1968, and June 30, 1972.

[4] For agencies which have received Federal support under section 105 of the Act, for less than three complete budget periods between July 1, 1968, and June 30, 1972.

[5] Provided 1 year extension is granted by the Regional Administrator.

[6] Premaintenance type support.

[7] Maintenance type support.

§ 35.510 Grant amount.

§ 35.510–1 Determination.

(a) *Control agencies.* In determining the amount of support for a control agency, the Regional Administrator will consider: (1) The functions, duties, and obligations assigned to the program by any applicable implementation plan; (2) the feasibility of the program in view of the resources to be made available to maintain a total program effort; (3) the probable or estimated total cost of the program in relation to its expected accomplishments; (4) the extent of the actual or potential pollution problem; and (5) the population served within the agency's jurisdiction.

(b) *Interstate planning agencies.* In determining the amount of support for an interstate planning agency, the Regional Administrator will, pursuant to

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section 106 of the Act, consider the extent of the actual or potential air pollution problem in relation to: (1) The need to revise applicable implementation plans, or portions thereof, to insure the timely achievement of national primary or secondary ambient air quality standards; (2) the development of new implementation plans; and he will also consider (3) the comments of the appropriate governmental officials; (4) the feasibility of the project with regard to the resources available; and (5) the estimated cost of the project compared to its probable accomplishments.

§ 35.510–2 Limitations.

(a) The amount of a grant award to support an air pollution control agency premaintenance or maintenance program shall be subject to the grant limits set forth in § 35.507–1 in accordance with the schedule of Federal support in § 35.507–3.

(b) Whenever a final allowance is not sufficient to meet the funding requirements of qualified air pollution control agencies, the Regional Administrator shall give priority to continuation support.

(c) Whenever funds available are insufficient to continue support for programs entitled to priority, an agency shall be consulted prior to any reduction in the amount of Federal support.

(d) Grants shall be awarded only from appropriations available at the time of award.

§ 35.515 Eligibility.

§ 35.515–1 Control programs.

Any air pollution control agency that meets the criteria for award prescribed in § 35.520–1 shall be eligible for an air pollution control program assistance grant.

§ 35.515–2 Interstate planning.

Any interstate planning agency that meets the criteria for award prescribed in § 35.520–2 shall be eligible for an air quality program planning grant authorized by section 106 of the Clean Air Act.

§ 35.520 Criteria for award.

§ 35.520–1 Control programs.

(a) No grant may be awarded unless the grant application includes a program description which meets the requirements of § 35.525 and which has been approved by the Regional Administrator.

(b) No grant may be awarded until the Regional Administrator has consulted with the official designated by the Governor or Governors of the State or States affected by such award pursuant to section 105(b) of the Clean Air Act. Such consultation should consider the role of the applicant in the enforcement of any applicable implementation plan and confirm that the project will be consistent with the objectives of the State air pollution control program.

(c) No grant may be awarded during any fiscal year when the estimated recurrent expenditures of non-Federal funds for the program will be less than the recurrent expenditures of non-Federal funds were for such programs during the preceding fiscal year.

(d) No grant may be awarded unless the applicant provides assurance satisfactory to the Regional Administrator that such grant will be used to supplement and, to the extent practicable, increase the State, local, or other non-Federal funds that would in the absence of such grant be made available for such program, and that Federal assistance will in no event supplant such State, local, or other non-Federal funds.

(e) Not more than 10 percent of the total of funds appropriated or allocated for the purposes of section 105(a) of the Clean Air Act in any one fiscal year shall be granted for air pollution control programs in any one State. In the case of a grant for a program in an area crossing State boundaries, the Regional Administrator shall determine the portion of such grant that is chargeable to the 10 percent limitation for each State into which such area extends.

(f) No grant may be awarded under § 35.507–1(a) (1)(ii) and (2)(ii) with respect to any air quality control region, or portion thereof, for which there is an applicable implementation plan, unless the air pollution control agency applicant has substantial responsibility for carrying out such applicable implementation plan. "Substantial responsibility" shall include, but not be limited to, adequate legal authority and resource capability for carrying out the effort required to implement and meet the goals of an approved implementation plan in an agency's geographic area of jurisdiction independently or in concert with other air pollution control agencies.

(g) No grant may be awarded to any interstate or intermunicipal air pollution control agency unless the applicant provides assurance satisfactory to the Regional Administrator in the grant application narrative description that the agency provides for adequate representation of appropriate State, interstate, local, and (when appropriate) international interests in the air quality control region and further that the agency has the capability of developing and implementing a comprehensive air quality plan for the air quality control region. Such a plan shall include (when found appropriate by the Regional Administrator) a recommended system of alerts to avert and reduce the risk of situations in which there may be imminent and serious danger to the public health or welfare from air pollutants and the various aspects relevant to the establishment of air quality standards for such air quality control region, including the concentration of industries, other commercial establishments, population and naturally occurring factors which shall affect such standards.

§ 35.520–2 Interstate planning.

No grant may be awarded pursuant to 35.507–1(b) unless such agency is designated by the Governors of the affected States, is capable of recommending to the Governors plans for implementation of national primary and secondary ambient air quality standards and includes representation from the States and appropriate political subdivisions within the affected interstate air quality control regions.

§ 35.525 Program requirements.

Portions of the program description may incorporate by reference appropriate parts of an applicable implementation plan.

§ 35.525–1 Premaintenance program.

A program description for an air pollution control agency premaintenance program shall include, but not be limited to, the following:

(a) A description of the extent of the air pollution problem within the applicant's geographical area of jurisdiction.

(b) A comprehensive statement of applicant's objectives for the prevention and control of air pollution or implementation of national primary and secondary ambient air quality standards, and of the proposed means to achieve these objectives.

(c) A description of the applicant's existing program and of the changes that are to be initiated during the project period, including but not limited to those procedures necessary to develop or execute any applicable implementation plan. Items that should be specifically included as part of the comprehensive description are:

(1) A description of the pertinent existing legal authority including applicable statutes, ordinances, rules, and regulations.

(2) A description of proposed, pending, or requested changes to the existing legal authority.

(3) A description of the organization, methodology, and resources utilized in the program. Resources should include administrative and technical support, personnel, facilities, equipment, staff, and other pertinent resources; and of any additional resources required to meet the program objectives or execute any applicable implementation plan.

(4) A description of any intergovernmental agreements and/or working relationships for carrying out programs.

(d) Regulations for the prevention and control of air pollution which are at least as stringent as those contained within any applicable implementation plan covering sources under the jurisdiction of the applicant agency.

(e) Provisions for visible emission limitations adequate for the prevention and control of particulate matter from all sources over which the applicant has jurisdiction and provide adequate measures for the prevention and control of open burning within the geographic area of the applicant's jurisdiction.

(f) A certification by the official responsible for application preparation that the program description as submitted has been officially adopted by that program.

(g) If no applicable implementation plan exists, the program description must have been determined by the appropriate official designated by the Governor

of the State, to be designed to prevent, and control air pollution within the geographic area of responsibility of the applicant in a manner consistent with the program of the State air pollution control agency.

(h) If there exists an applicable implementation plan for any air quality control region within which the program's geographical area of jurisdiction is partially or totally located, the program description must be designed to prevent and control air pollution within the geographical area and scope of responsibility of such applicant in a manner consistent with such applicable implementation plan.

§ 35.525–2 Maintenance program.

A program description of an air pollution control agency maintenance program shall satisfy the requirements of § 35.525–1 and shall meet the following additional requirements, either alone or in cooperation with other agencies within its geographic area of jurisdiction. The program must:

(a) Provide a description of the organization, program support activities and staffing skills that are consistent with stated objectives, environmental needs and solutions.

(b) Employ at least 75 percent of estimated total staff needs as determined by an Environmental Protection Agency manpower model, comparable task analysis procedures or other means acceptable to the Regional Administrator.

(c) Provide training for development and upgrading of employee skills consistent with maintenance program requirements.

(d) Provide for public education and information that is designed to maintain public confidence and support of the air pollution control program.

(e) Maintain legal authority and regulations to prevent, abate, and control air pollution from all sources within the applicant's area of jurisdiction which are not subject to exclusive control by other agencies.

(f) Provide procedures for conducting area surveillance source inspections and enforcement activities on a 24-hour basis. This shall include a system involving official forms for complaints, violation notices, violation observations, source registration, site inspections, etc. Enforcement activities must be supported by adequate legal services.

(g) Provide a communication system for implementing emergency procedures and rapid response to field surveillance and enforcement needs. The applicant agency should be capable of effecting reduction through emergency episode procedures, and of assessing engineering feasibility of the emission regulations being developed.

(h) Provide a program that sets forth legally enforceable procedures that will be used to prevent construction, modification, or operation of any stationary source at any location where emissions from such source will prevent the attainment or maintenance of a national standard.

(i) Provide a procedure and capability for obtaining, performing, and/or evaluating source tests of industrial processes and operations required by permit systems and/or regulations.

(j) Provide an operation and maintenance schedule for the operation of laboratory facilities to assure their adequacy for performing analysis of samples and data reduction functions. The program for performing required laboratory operations can be provided as an external service to the agency.

(k) Provide a system for data acquisition, handling, and analysis consistent with maintenance program requirements.

(l) Operate and maintain an air quality monitoring network consistent as a minimum with implementation plan requirements.

(m) Provide in a form prescribed by the Administrator an updated, comprehensive emission inventory of air pollutants being discharged within the applicant's area of jurisdiction and covering the sources and amounts of those air pollutants for which national ambient air quality standards have been promulgated under section 109 of the Clean Air Act (42 U.S.C. 1857c–4) and those that have been determined as hazardous in accordance with section 112 of the Clean Air Act (42 U.S.C. 1857c–7).

(n) Provide data regarding distribution and concentrations of those air pollutants in the ambient air within the applicant's area of jurisdiction which are not currently being reported in accordance with any applicable implementation plan.

§ 35.525–3 Interstate planning.

A program description of an interstate planning agency shall include, but not be limited to, the following:

(a) Where there exists an applicable implementation plan, or portion thereof, a project description shall include:

(1) A listing of the air pollutants and their associated air quality standards applicable to the proposed project.

(2) A description (including geographic and temporal extent) of any unanticipated deficiency in any applicable implementation plan, or portion thereof, which may prevent the timely achievement of any applicable air quality standard.

(3) A description of the applicant's proposals, including alternatives, designed to insure the timely achievement of any applicable air quality standard. These proposals shall set forth project objectives in order of priority and the timetable for achieving such objectives.

(b) For the purpose of developing new implementation plans to meet national ambient air quality standards promulgated by the Administrator, the project description shall include:

(1) A listing of the air pollutants and their associated national ambient air quality standards applicable to the proposed project.

(2) A description of the steps to be taken to develop an implementation plan which will meet the requirements of section 110 of the Clean Air Act (42 U.S.C. 1857c–5) and 40 CFR Part 51.

(c) A description of existing and proposed resources, including staff, facilities, and procedures, adequate for effective implementation of the project.

§ 35.530 Supplemental conditions.

In addition to any other requirement herein, each air pollution control part shall be subject to the following conditions:

(a) Direct cost expenditures for the purchase of real estate or construction of a fixed structure are unallowable, except that costs of monitoring stations may be allowed as direct costs.

(b) The sum of the non-Federal recurrent expenditures by the grantee in the fiscal year for which the grant is awarded shall be equal to or greater than the sum of grantee's recurrent expenditures during the fiscal year immediately preceding the beginning of the current budget period.

(c) The grantee shall provide such information as the Regional Administrator may from time to time require to carry out his functions. Such information may contain, but is not limited to: Air quality data, emission inventory data, data describing progress toward compliance with regulations by specific sources, data on variances granted, and similar regulatory actions.

§ 35.535 Assignment of personnel.

(a) The Administrator may detail personnel of the Environmental Protection Agency to an air pollution control agency pursuant to section 301(b) of the Clean Air Act.

(b) The Regional Administrator, with the concurrence of the grantee, shall reduce grant payments by the amount of pay, allowances, travel, training, and other expenses related to the detail of any EPA officer or employee pursuant to section 103(d) of the Clean Air Act. The amount of the reduction shall be deemed to have been paid to the grantee in determining the amount of any grant.

Water Pollution Control State and Interstate Program Grants

§ 35.531 Definitions.

As used herein, the following words and terms shall have the meaning set forth below:

§ 35.531–1 Allotment.

The sum allocated for each State or interstate agency, the amount of which is determined by application of a formula based upon population, the extent of the water pollution problem, and financial need.

§ 35.531–2 Federal share.

The percentage rate determined pursuant to § 35.537 applied to the allotment to determine the Federal participation in the allowable costs of the water pollution control program.

§ 35.531–3 Interstate agency.

An agency of two or more States established by or pursuant to an agreement or compact approved by the Congress, or

any other agency of two or more States, having substantial powers or duties pertaining to the control of water pollution.

§ 35.551–4 Per capita income.

With respect to any State, the average of the per capita income of such State for the three most recent consecutive years for which satisfactory data are available from the Department of Commerce; except that, in the absence of such satisfactory data, the per capita income of Alaska shall be deemed to equal the average per capita income of all the States in the continental United States and the per capita incomes of Puerto Rico and the Virgin Islands shall be deemed to equal the per capita income of the State having the lowest per capita income of the continental United States.

§ 35.551–5 Plan.

Any plan, including revisions thereof, for the prevention and control of water pollution submitted by a State water pollution control agency or interstate agency pursuant to § 35.575.

§ 35.551–6 State.

A State, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, and Guam.

§ 35.551–7 State water pollution control agency.

The State agency charged with primary responsibility of enforcing State laws relating to the abatement of water pollution.

§ 35.555 Allocation of funds.

§ 35.555–1 Notification of funding.

(a) *Tentative allowances.* No later than April 1 of each year, the Administrator will issue to each Regional Administrator a tentative regional allowance for the next fiscal year. This tentative allowance (planning target) will be based on the amount of the appropriation requested for the next fiscal year The Regional Administrator shall promptly notify each State and interstate agency of its tentative allotment for the next fiscal year.

(b) *Final allowances.* As soon as practicable after funds are made available, the Administrator will issue to each Regional Administrator a final regional allowance for State and interstate allotments from the funds appropriated for each fiscal year.

(c) *Reallotment.* On October 15 of each year, or as soon thereafter as practicable, the Administrator will issue to each Regional Administrator an allowance derived from reallocation of prior year funds.

(d) *Computation of regional allowances.* Tentative and final regional allowances shall be the sum of the tentative or final State and interstate allotments within each EPA region.

§ 35.555–2 Allotments to States.

Funds appropriated for any fiscal year for grants to States shall be allotted among the several States on the basis of $12,000 for each State and the balance on the basis of the following factors:

(1) Two-thirds in the ratio that the product of the population of each State and the reciprocal of its per capita income bears to the sum of the corresponding products for all States.

(2) One-sixth on the basis of the ratio of the population density of a State to the population density of all the States.

(3) One-sixth on the basis of the ratio of the number of industrial establishments discharging industrial wastes in each State to the number of such establishments in all the States. The number of such establishments shall be determined on the basis of the latest available "wet industries" data provided by the Department of Commerce.

§ 35.555–3 Allotments to interstate agencies.

(a) Funds appropriated for any fiscal year for grants to interstate agencies shall be allotted among the several interstate agencies on the basis of the following factors:

(1) Two-thirds in the ratio that the product of the population of the area served by the interstate agency and the reciprocal of the average per capita income of the interstate agency for the three most recent consecutive years bears to the sum of the corresponding products for all the interstate agencies. For this purpose, per capita income of an interstate agency shall mean the total gross income of all the States comprising such interstate agency divided by the total population of all the States comprising such interstate agency.

(2) One-sixth on the basis of the ratio of the average of the population densities of the States comprising each interstate agency area to the sums of the average of the population densities of each interstate agency area.

(3) One-sixth on the basis of the ratio of the number of industrial establishments discharging industrial wastes in the States comprising the interstate agency to the number of such establishments in all the interstate agency areas. The number of such "wet industries" establishments shall be determined on the basis of the latest available data provided by the Department of Commerce.

§ 35.555–4 Population computation.

For purposes of this section, population shall be determined on the basis of the most recent Department of Commerce estimates available at the time of computation.

§ 35.557 Federal share.

§ 35.557–1 Determination of Federal share for States.

For any State the Federal share shall be 100 per centum less that percentage which bears the same ratio to 50 per centum as the per capita income of such State bears to the per capita income of the continental United States (excluding Alaska), except that the Federal share shall in no case be more than 66⅔ per centum or less than 33⅓ per centum, and the Federal share for Hawaii and Alaska shall be 50 per centum, and for Puerto Rico and the Virgin Islands, shall be 66⅔ per centum.

§ 35.557–2 Determination of Federal share for interstate agencies.

For any interstate agency the "Federal share" shall be 100 per centum less that percentage which bears the same ratio to 50 per centum as the average per capita income of the States comprising such interstate agencies bears to the per capita income of the continental United States (excluding Alaska), except that the Federal share in no case shall be more than 66⅔ per centum or less than 33⅓ per centum and shall be promulgated on the basis of the same data used for determining the "Federal share" for any State.

§ 35.560 Grant amount.

§ 35.560–1 Determination.

Each State and interstate agency shall receive a grant from its final allotment in an amount not in excess of the approved Federal share of the allowable cost of carrying out its approved plan, including the cost of training personnel for State and local water pollution control work and administering the plan.

§ 35.560–2 Limitation.

When a State or interstate agency matching share percentage rate, when added to the Federal share, is less than 100 percent, the grant amount shall be reduced until the sum of the Federal share and matching share percentage rate equals 100 percent.

§ 35.560–3 Reduction of grant amount.

The grantee must submit a complete application on or before June 1 preceding the fiscal year for which the program application is prepared. If the State or interstate agency does not meet this deadline, the grant amount will be reduced one-sixth of the first 6 months available allotment for each full month's delay.

§ 35.563 Grant limits and duration.

Following approval of the plan, the budget period of the grant shall be the entire fiscal year and Federal assistance shall not exceed the allotment limits specified in § 35.555 and shall be within the Federal share limits of § 35.557.

§ 35.565 Eligibility.

A grant may be awarded to a State or interstate water pollution control agency which has submitted a plan meeting the requirements of § 35.575: *Provided, however,* That such plan has been approved by the appropriate Regional Administrator(s).

§ 35.575 Plan requirements.

A plan shall:

(a) Provide for administration or for the supervision of administration of the plan by the State water pollution control agency or, in the case of a plan submitted by an interstate agency, by such interstate agency;

(b) Provide that such agency will make such reports, in such form and containing such information, as the Regional

Administrator may from time to time reasonably require to carry out his functions under this Act;

(c) Set forth the plans, policies, and methods to be followed in carrying out the State (or interstate) plan and in its administration;

(d) Provide for extension or improvement of the State or interstate program for prevention and control of water pollution program extension or improvement shall be demonstrated by a succinct analysis of the water pollution problem, long-term goals, activities to be accomplished during the budget period, legal authorities, management organization, available resources, and proposed programs the applicant will follow during the budget period.

(e) Provide such accounting, budgeting, and other fiscal methods and procedures as are necessary for the proper and efficient administration of the plan; and

(f) Set forth the criteria used by the State in determining priority of projects as provided in section 8(b)(5) of the Water Pollution Control Act, as amended.

Subpart C—Grants for Construction of Wastewater Treatment Works

§ 35.800 Purpose.

This subpart supplements the EPA general grant regulations and procedures (40 CFR Part 30) and establishes and codifies policies and procedures for grants for the construction of treatment works to prevent the discharge of untreated or inadequately treated sewage or other waste into any waters.

§ 35.801 Authority.

This subpart is issued under section 8 of the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1158.

§ 35.805 Definitions.

As used in this subpart, the words and terms defined in this section shall have the meaning set forth below:

§ 35.805–1 Construction.

The preliminary planning to determine the economic and engineering feasibility of treatment works, the engineering, architectural, legal, fiscal, and economic investigations and studies, surveys, designs, plans, working drawings, specifications, procedures, and other action necessary to the construction of treatment works; the erection, building, acquisition, alteration, remodeling, improvement, or extension of treatment works; and the inspection and supervision of the construction of treatment works. The phrase "initiation of construction," as used in this subpart, means the issuance of a notice to proceed, or, if none is required, the execution of a construction contract.

§ 35.805–2 Intermunicipal agency.

An agency of two or more municipalities having jurisdiction over disposal of sewage, industrial wastes, or other wastes.

§ 35.805–3 Interstate agency.

An agency of two or more States established by or pursuant to an agreement or compact approved by the Congress, or any other agency of two or more States having substantial powers or duties pertaining to the control of pollution of waters.

§ 35.805–4 Municipality.

A city, town, borough, county, parrish, district, or other public body created by or pursuant to State law, or an Indian tribe or an authorized Indian tribal organization, with jurisdiction over disposal of sewage, industrial wastes, or other wastes.

§ 35.805–5 State.

A State, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, and Guam.

§ 35.805–6 State water pollution control agency.

The State authority charged with primary responsibility for enforcing the State laws relating to the abatement of water pollution.

§ 35.805–7 Treatment works.

The various devices used in the treatment of sewage or industrial wastes of a liquid nature, including the necessary intercepting sewers, outfall sewers, pumping, power, and other equipment, and their appurtenances, and including any extensions, improvements, remodeling, additions, and alterations thereof.

§ 35.810 Applicant eligibility.

Grants may be made to any State, municipality, intermunicipal or interstate agency.

§ 35.815 Allocation of funds.

§ 35.815–1 Allotments to States.

(a) The first $100 million appropriated for any fiscal year shall be allotted by the Administrator as soon as practicable as follows:

(1) Fifty per centum of such sums in the ratio that the population of each State bears to the population of all the States, and

(2) Fifty per centum of such sums in the ratio that the quotient obtained by dividing the per capita income of the United States by the per capita income of each State bears to the sum of such quotients for all the States. Per capita income shall be determined on the basis of the average of the per capita income of the States and of the continental United States for the three most recent consecutive years for which satisfactory data are available from the Department of Commerce; except that, in the absence of such satisfactory data, the per capita income of (i) Puerto Rico, (ii) the Virgin Islands, and (iii) Guam shall be deemed to equal the per capita income of the State having the lowest per capita income in the continental United States.

For purposes of this section, population shall be determined on the basis of the official population figures of the latest decennial census for which figures are available as certified by the Secretary of Commerce.

(b) Funds in excess of $100 million appropriated for any fiscal year, except as otherwise provided by law, shall be allotted by the Administrator as soon as practicable in the ratio that the population of each State bears to the population of all the States.

(c) Sums available for allocation to States based on eligibility for reimbursement, severe local and basinwide water pollution problems, or other factors shall be divided between such purposes in such proportions as the Administrator may determine and shall be allotted among the States in accordance with the procedures and provisions set forth for reallotment of unobligated funds (see § 35.815–2). Allocation shall be made at such time or times as may be practicable.

(d) Sums allotted to a State under paragraphs (a) and (b) of this section which are not obligated within the time period specified by law shall be reallotted in accordance with the reallotment provisions contained in § 35.815–2.

(e) At least 50 per centum of the first $100 million appropriated for each fiscal year beginning on or after July 1, 1965, shall be used for the construction of treatment works serving municipalities of 125,000 population or under.

(f) The allotment of a State, including reallotments, shall be available, in accordance with the provisions of this subpart, for payments to meet the cost of construction of treatment works in such State for which Federal grants have been approved.

§ 35.815–2 Reallotment.

(a) Reallotment of unobligated funds (see § 35.815–1(d)) will be made within 90 days following their availability for reallotment, or as soon thereafter as practicable, as follows:

(1) Except as set forth in paragraph (b) of this section, unobligated funds shall be reallotted among the States having projects eligible for reimbursement under the provisions of section 8(c) of the Federal Water Pollution Control Act based on the ratio which each State's reimbursement eligibility for all the States: *Provided*, That each State to receive any such reallotment shall first provide such assurances as the Administrator deems appropriate to assure that such funds shall be applied on an equitable pro rata basis with respect to such work in place.

(2) If any funds remain unobligated, such funds shall be reallotted among the States based on the ratio that each State's remaining eligibility for reimbursement bears to the total remaining reimbursement eligibility for all States: *Provided*, That each State to be entitled to any such reallotment shall, within 30 days following the date on which funds become available for reallotment, or as soon thereafter as practicable, provide a statement satisfactory to the Administrator listing projects eligible for reimbursement, which statement shall also

specify the manner in which any reallotted funds should be applied towards the projects so listed.

(3) Prior to making any reallotment under subparagraphs (1) and (2) of this paragraph, the Administrator may determine whether any part of the unobligated funds should be applied in situations of special need to meet severe local and basinwide pollution problems in order to promote the purposes of the Federal Water Pollution Control Act most effectively. In making such determination, the Administrator shall apply the following criteria: (i) The extent of degradation of water quality; (ii) the extent of the financial need; (iii) the extent to which degradation is attributed to untreated or inadequately treated waters of municipalities; (iv) the extent to which facilities to be constructed will contribute to the enhancement of the environment; (v) such other factors as the Administrator considers relevant. The Administrator shall reallot such funds to any State in which such special needs exist on such basis as he may deem most advisable: *Provided*, That each State to receive any such reallotment shall first provide such assurances as the Administrator may require that such funds should be applied to eligible projects selected by the Administrator to meet such needs.

(b) Whenever a State has funds subject to reallotment, prior to such reallotment, additional grants may be made for any projects in that State where the Administrator finds that the need for the projects is due in part to any Federal institution or Federal construction activity which has resulted in an influx of federally connected personnel and have added to the applicant's requirements for sewage treatment works. Such additional grants shall be limited to additional identifiable costs of construction attributable to such Federal institution or Federal construction activity. "Federal institution" shall mean any Federal institution, reservation, installation, base, project, or other similar Federal establishment used by the Federal Government primarily for the performance of functions other than the provision of services to the area in which such establishment is situated. "Federal construction activity" shall mean the construction of any "Federal institution" as herein defined.

(1) Applicants for additional grants must support their claims that the need for their projects is due in part to any Federal institution or Federal construction activity by showing that at least 5 percent of the population contributing wastes to the project are, as of the date of filing the application for the additional grant, in one or more of the following categories:

(i) Federal personnel and their families residing on or at a Federal institution, as well as occupants, patients, and inmates of such institutions;

(ii) Federal personnel and their families working on or at, but residing at other than, a Federal institution;

(iii) Non-Federal personnel and their families working on Federal construction projects involving a Federal institution.

(2) Necessary supporting information submitted by applicants shall be used as the basis for computing a project's additional grant entitlement as follows:

(i) For subdivision (i) of paragraph (b)(1), 100 percent of the product of the per capita cost of the project and the number represented in this category;

(ii) For either subdivision (ii) or (iii) of paragraph (b)(1), 50 percent of the product of the per capita cost of the project and the number represented by such category;

(iii) Provided that in any case the additional grant entitlement with respect to any category shall be reduced by the amount of any Federal contribution by any other Federal agency toward the capital cost of the approved project made on behalf of such category. The total of the sums of the above calculations shall be the maximum entitlement of an individual project for an additional grant.

(3) If the total of all entitlements for additional grants exceeds the funds available to a State for such grants, the available funds will be prorated over all eligible applicants for such grants in the State.

(4) In any instance where a grantee community claims its need for a project is due in part to any Federal institution or federally construction activity, but because of exceptional circumstances is not measurable by the criteria set out above, a request for special consideration may be made pursuant to the deviation procedures (see 40 CFR 30.1001).

(5) In no event shall any additional grant be made in an amount which, together with the amount of the basic grant and, as appropriate, other Federal and State contributions, will exceed the total eligible project cost.

§ 35.830 Grant limitations.

§ 35.830-1 Exceptions.

No grant shall be made for any project in an amount exceeding 30 per centum of the estimated reasonable cost of the project, except that:

(a) The percentage limitation shall be increased to a maximum of 40 per centum if the State agrees to pay not less than 30 per centum of the cost of all projects for which Federal grants are to be made from the same fiscal year's allocation, or

(b) The percentage limitation shall be increased to a maximum of 50 per centum if the State agrees to pay not less than 25 per centum of the cost of all projects for which Federal grants are to be made from the same fiscal year's allocation and enforceable water quality standards have been established for the waters into which the project discharges, in accordance with section 10(c) of the Federal Water Pollution Control Act in the case of interstate waters, and under State law in the case of intrastate waters.

(c) The amount of a grant may be increased by an additional 10 per centum of such grant for any project which has been certified by an official State, metropolitan, or regional planning agency empowered under State or local laws or interstate compact to perform metropolitan or regional planning for a metropolitan area within which such grant is to be used, or other agency or instrumentality designated for such purposes by the Governor (or Governors in the case of interstate planning) as being in conformity with the comprehensive plan developed or in process of development for such metropolitan area. "Metropolitan area" means either (1) a standard metropolitan statistical area as established by the Office of Management and Budget except as may be determined by the President as not being appropriate for the purposes hereof, or (2) any urban area, including those surrounding areas that form an economic and socially related region, taking into consideration such factors as present and future population trends and patterns of urban growth, location of transportation facilities and systems, and distribution of industrial, commercial, residential, governmental, institutional, and other activities, which in the opinion of the President lends itself as being appropriate for the purposes hereof.

§ 35.835 Application for grant.

§ 35.835-1 Preapplication procedures.

Preapplication assistance regarding construction grants for waste water treatment works, including the necessary application forms, should be obtained from the State water pollution control agency or the appropriate EPA regional office.

§ 35.835-2 Formal application.

An application for waste water treatment works construction grants shall be submitted to the State water pollution control agency. Upon approval of the application and certification of the project for priority, the State water pollution control agency will transmit the application to the appropriate EPA regional office.

§ 35.840 Determining the desirability of projects.

In determining the desirability of treatment works projects, the State water pollution control agency and the regional administrator shall give consideration to the following:

(a) The relation of the estimated cost of the project, including operation and maintenance, to the public interest and to the necessity for the project;

(b) The propriety of Federal aid in construction of the project, which will be determined on the basis of one or more of the following criteria:

(1) Effective control. Whether the project effectively contributes to the control of pollution of the waters into which the project discharges its treated water.

(2) International treaty obligations. Whether the project is required to control pollution in meeting international treaty obligations or agreements.

(3) Federal impact. Whether the project involves a pollution problem affected by (i) Federal installations contributing to the total municipal waste loadings; (ii) a water use requirement involving national defense; (iii) a Federal water resource development; or (iv) an increase in population due to any Federal institution or Federal construction activity which has resulted in an influx of federally connected personnel and which have added to the applicant's requirements for sewage treatment works.

(4) Public health necessity. Whether the project involves treatment works required to abate a public health hazard.

(5) Financial burden. Whether the municipality can demonstrate that the construction of sewage treatment works involves an extraordinary and excessive financial burden in relation to the municipality's economic resources.

(6) Enforcement recommendations. Whether the construction of the sewage treatment plant is recommended or required by Federal or State water pollution control enforcement authorities.

(c) The public benefits to be derived by the construction of the project;

(d) The related projects requiring completion before full benefit can be derived from the project for which the application is made and the degree to which the completion of the related projects in the near future is assured;

(e) The feasibility of utilizing available facilities; and,

(f) The probability that the project will be constructed and put into operation within a reasonable time.

§ 35.835 Criteria for award.

In addition to the evaluation required pursuant to § 35.830, the Regional Administrator shall determine whether the following criteria are met, prior to the award of the grant:

§ 35.835–1 State plan and priority.

The project must be in conformity with the State water pollution control plan submitted pursuant to the provisions of section 7 of the Federal Water Pollution Control Act and must be certified by the State Water Pollution Control Agency as entitled to priority over other eligible projects on the basis of financial as well as water pollution control needs; except that in the case of additional grants as provided for in the case of impact grants (see § 35.815–2(b)) and for conformity with metropolitan plans (see § 35.820–1(c)), no additional State certification of priority shall be required for the project receiving such an additional grant.

§ 35.835–2 Basin control.

No grant may be awarded unless the Regional Administrator determines, based on information furnished to him by the appropriate State or interstate agency having jurisdictional responsibilities for the area of concern, that the project is included in an effective current basinwide plan for pollution abatement in accordance with applicable water quality standards. Such basinwide plan must be in conformity with the requirements set forth in § 35.105–1.

§ 35.835–3 Regional and metropolitan plan.

No grant may be awarded unless the Regional Administrator determines that the project is included in an effective metropolitan or regional plan developed or in the process of development, and certified by the Governor or his designee as being the official pollution abatement plan developed or in the process of development for the metropolitan area or region within which the project is proposed to be constructed. In the case of an interstate metropolitan or regional area, the plan shall be certified by the respective Governors or their designees. Such plan must meet the requirements set forth in § 35.105–2.

§ 35.835–4 Adequacy of treatment.

No grant may be awarded unless the applicant provides assurance satisfactory to the Regional Administrator that the proposed project is designed to result in an operable treatment works, or part thereof, which will adequately treat sewage or industrial wastes of a liquid nature in order to abate, control, or prevent water pollution. Such assurance must certify that the treatment works or part thereof, if constructed, operated, and maintained in accordance with plans, designs, and specifications will result in: (a) Substantially complete removal of all floatable and settleable materials; (b) removal of not less than 85 percent of 5-day biochemical oxygen demand of equivalent; (c) substantially complete reduction of pathogenic microorganisms on a continuous basis; and (d) such additional treatment as may be necessary to meet applicable water quality standards, recommendations of the Administrator, or order of a court pursuant to section 10 of the Federal Water Pollution Control Act: *Provided*, That in the case of a project which will discharge wastes into open ocean waters through an ocean outfall, the Administrator may waive the requirements of subparagraph (b) of this paragraph if he determines that such discharges will not adversely affect the open ocean environment and adjoining shores: *Provided further*, That in the case of a project designed solely to treat or control wet weather combined sewer overflows, the Administrator may waive the requirements of subparagraphs (b) and (c) of this section if he finds such project to be consistent with river basin and regional or metropolitan plans to meet approved water quality standards.

§ 35.835–5 Industrial waste treatment.

(a) Where a project will treat industrial wastes, a grant may be awarded at the discretion of the Regional Administrator: *Provided*, That such project is included in a waste treatment system treating the wastes of the entire community, metropolitan area, or region concerned. For the purposes of this section, "waste treatment system" means one or more treatment works which provide integrated, but not necessarily interconnected, waste disposal for a community, metropolitan area or region.

(b) Where industrial wastes are to be treated by the proposed project, no grant may be awarded unless the applicant provides assurance satisfactory to the Regional Administrator that such applicant will require pretreatment of any industrial waste which would otherwise be detrimental to the treatment works or its proper and efficient operation and maintenance, or will otherwise prevent the entry of such waste into the treatment plant.

(c) Where industrial wastes are to be treated by the proposed project, no grant may be awarded unless the applicant provides assurance satisfactory to the Regional Administrator that the applicant has, or will have in effect when the project will be operated, an equitable system of cost recovery. Such system of cost recovery may include user charges, connection fees, or such other techniques as may be available under State and local law. Such system shall provide for an equitable assessment of costs whereby such assessments upon dischargers of industrial wastes correspond to the cost of the waste treatment, taking into account the volume and strength of the industrial, domestic, commercial wastes, and all other waste discharges treated, and techniques of treatment required. Such cost recovery system shall produce revenues, in proportion to the percentage of industrial wastes, proportionately, relative to the total waste load to be treated by the project, for the operation and maintenance of the treatment works, for the amortization of the applicant's indebtedness for the cost of such treatment works, and for such additional costs as may be necessary to assure adequate waste treatment on a continuing basis. For purposes of this section "industrial waste" shall mean the waste discharges (other than domestic sewage) of industries identified in the "Standard Industrial Classification Manual," Bureau of the Budget, 1967, as amended and supplemented, under the category "Division D—Manufacturing," and such other wastes as the Regional Administrator deems appropriate for purposes of this section.

§ 35.835–6 Design.

No grant may be awarded unless the Regional Administrator determines that the proposed treatment works is designed so as to achieve economy, efficiency, and effectiveness in the prevention or abatement of pollution or enhancement of the quality of the water into which such treatment works effluent will discharge and meet such requirements as the Administrator may publish from time to time concerning treatment works design.

§ 35.835–7 Operation and maintenance.

No grant may be awarded unless the applicant has made provision satisfactory to the Regional Administrator that the treatment works will be maintained and operated in accordance with such

requirements as the Administrator may publish from time to time concerning methods, techniques and practices for economic, and efficient, effective operation and maintenance of treatment works. Such provision shall include, but not be limited to, (a) an operation and maintenance manual, including emergency readiness plan, (b) properly trained personnel, and (c) operational reports.

§ 35.835–8 Operation during construction.

Where an existing waste treatment facility is to be modified or enlarged, no grant may be awarded unless the applicant provides assurance satisfactory to the Regional Administrator that the treatment works will be operated during construction to obtain optimum treatment of sewage.

§ 35.835–9 Postconstruction inspection.

No grant may be awarded unless the State Water Pollution Control Agency provides assurance satisfactory to the Regional Administrator that the State will inspect the treatment works not less frequently than annually for the 3 years after such treatment works is constructed and periodically thereafter to determine whether such treatment works is operated and maintained in an efficient, economic, and effective manner.

§ 35.840 Supplemental grant conditions.

In addition to the EPA general grant conditions (Appendix A to this subchapter), each wastewater treatment works construction grant shall be subject to the following conditions:

(a) All measures required to minimize water pollution to affected waters shall be undertaken in the planning and construction processes of the treatment plant to be financed in part by the Federal grant. To achieve this end, regard shall be given to the selection of a plant-site compatible with the protection of the natural environment and the watershed natural cover, engineering and work measures to assure minimal siltation and bank erosion from the construction process, and other measures which reduce water pollution to a minimum.

(b) Construction work will be performed by the lump sum (fixed) price or unit price contract method; adequate methods of advertising for and obtaining sealed competitive bids will be employed prior to award of the construction contract; and the award of the contract will be made to the responsible bidder submitting the lowest responsive bid, which shall be determined without regard to State or local law whereby preference is given on factors other than the amount of the bid.

(c) The project will not be advertised or placed on the market for bidding until the final plans and specifications have been approved by the Regional Administrator, and the appropriate State water pollution control agency and the applicant has been so notified.

(d) On construction contracts exceeding $100,000, the contractor must furnish performance and payment bonds, each of which shall be in an amount not less than 100 per centum of the contract price. Construction contracts less than $100,000 shall follow the State or local requirements relating to bid guarantees, performance bonds, and payment bonds. In all cases, the contractor must maintain during the construction phase of the contract adequate fire and extended coverage, workmen's compensation, public liability and property damage insurance. Proceeds of the performance and payment bonds and fire and extended coverage insurance shall, in the discretion of the Regional Administrator, be applied to meet the cost of construction of the project.

(e) The construction of the project, including the letting of contracts in connection therewith, shall conform to the applicable requirements of State, territorial, and local laws and ordinances except as provided in § 35.840 (b) and (d).

(f) Any construction contract must provide that representatives of the Environmental Protection Agency and the State will have access to the work whenever it is in preparation or progress and that the contractor will provide proper facilities for such access and inspection. The contract must also provide that the Grants Officer, the Comptroller General of the United States, or any authorized representative shall have access to any books, documents, papers, and records of the contractor which are pertinent to the project for the purpose of making audit, examination, excerpts, and transcriptions thereof.

(g) The grantee will provide and maintain competent and adequate engineering supervision and inspection for the project to insure that the construction conforms with the approved plans and specifications.

(h) The applicant will demonstrate to the satisfaction of the Regional Administrator that he has or will have a fee simple or such other estate or interest in the site of the project, and rights of access, as the Regional Administrator finds sufficient to assure undisturbed use and possession for the purpose of construction and operation for the estimated life of the project; and in the case of projects serving more than one municipality, that the participating communities have such interests or rights as the Regional Administrator finds sufficient to assure their undisturbed utilization of the project for the estimated life of the project.

(i) The grantee agrees to construct the project or cause it to be constructed in accordance with the application and plans and specifications approved by the Regional Administrator.

(j) In addition to the notification of project changes pursuant to 40 CFR 30.900–1, a copy of any construction contract, or modifications thereof, and of revisions to plans and specifications must be submitted to the Regional Administrator through the State water pollution control agency.

(k) In addition to the notification of project changes required pursuant to 40 CFR 30.900–1, prior approval by the Regional Administrator and the State water pollution control agency is required for project changes which (i) substantially alter the design and scope of the project, (ii) alter the type of treatment to be provided, (iii) substantially alter the location, size, capacity, or quality of any major items of equipment; or (iv) increase the amount of Federal funds needed to complete the project: *Provided*, That prior EPA approval is not required for changes to correct errors, minor changes, or emergency changes. No approval or disapproval of a project change pursuant to 40 CFR 30.900 or this section shall commit or obligate the United States to any increase in the amount of the grant or payments thereunder, but shall not preclude submission or consideration of a request for a grant amendment pursuant to 40 CFR 30.901.

§ 35.845 Payments.

Installment payments of the Federal grant shall be made upon request of the applicant and shall be based on the cost of the work performed, materials and equipment furnished, and services rendered in connection with an approved project. Payments will generally be made in four installments, except as the Regional Administrator may otherwise direct. Final payment will be made only after a final inspection by an EPA representative upon completion of the project.

§ 35.850 Reimbursement [Reserved].

[FR Doc.72-8683 Filed 6-8-72;8:45 am]

I. 11

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FRIDAY, AUGUST 17, 1973
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PART II

ENVIRONMENTAL PROTECTION AGENCY

■

WATER PROGRAMS

Secondary Treatment Information

No. 159—Pt. II——1

Title 40—Protection of Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

SUBCHAPTER D—WATER PROGRAMS

PART 133—SECONDARY TREATMENT INFORMATION

On April 30, 1973, notice was published in the FEDERAL REGISTER that the Environmental Protection Agency was proposing information on secondary treatment pursuant to section 304(d)(1) of the Federal Water Pollution Control Act Amendments of 1972 (the Act). Reference should be made to the preamble of the proposed rulemaking for a description of the purposes and intended use of the regulation.

Written comments on the proposed rulemaking were invited and received from interested parties. The Environmental Protection Agency has carefully considered all comments received. All written comments are on file with the Agency.

The regulation has been reorganized and rewritten to improve clarity. Major changes that were made as a result of comments received are summarized below:

(a) The terms "1-week" and "1-month" as used in § 133.102 (a) and (b) of the proposed rulemaking have been changed to 7 consecutive days and 30 consecutive days respectively (See § 133.102 (a), (b), and (c)).

(b) Some comments indicated that the proposed rulemaking appeared to require 85 percent removal of biochemical oxygen demand and suspended solids only in cases when a treatment works would treat a substantial portion of extremely high strength industrial waste (See § 133.102(g) of the proposed rulemaking). The intent was that in no case should the percentage removal of biochemical oxygen demand and suspended solids in a 30 day period be less than 85 percent. This has been clarified in the regulation. In addition, it has been expressed as percent remaining rather than percent removal calculated using the arithmetic means of the values for influent and effluent samples collected in a 30 day period (See § 133.102(a) and (b)).

(c) Comments were made as to the difficulty of achieving 85 percent removal of biochemical oxygen demand and suspended solids during wet weather for treatment works receiving flows from combined sewer systems. Recognizing this, a paragraph was added which will allow waiver or adjustment of that requirement on a case-by-case basis (See § 133.103(a)).

(d) The definition of a 24-hour composite sample (See § 133.102(c) of the proposed rulemaking) was deleted from the regulation. The sampling requirements for publicly owned treatment works will be established in guidelines issued pursuant to sections 304(g) and 402 of the Act.

(e) In § 133.103 of the proposed rulemaking, it was recognized that secondary treatment processes are subject to upsets over which little or no control may be exercised. This provision has been deleted. It is no longer considered necessary in this regulation since procedures for notice and review of upset incidents will be included in discharge permits issued pursuant to section 402 of the Act.

(f) Paragraph (f) of § 133.102 of the proposed rulemaking, which relates to treatment works which receive substantial portions of high strength industrial wastes, has been rewritten for clarity. In addition, a provision has been added which limits the use of the upwards adjustment provision to only those cases in which the flow or loading from an industry category exceeds 10 percent of the design flow or loading of the treatment works. This intended to reduce or eliminate the administrative burden which would be involved in making insignificant adjustments in the biochemical oxygen demand and suspended solids criteria (See § 133.103(b)).

The major comments for which changes were not made are discussed below:

(a) Comments were received which recommended that the regulation be written to allow effluent limitations to be based on the treatment necessary to meet water quality standards. No change has been made in the regulations because the Act and its legislative history clearly show that the regulation is to be based on the capabilities of secondary treatment technology and not ambient water quality effects.

(b) A number of comments were received which pointed out that waste stabilization ponds alone are not generally capable of achieving the proposed effluent quality in terms of suspended solids and fecal coliform bacteria. A few commenters expressed the opposite view. The Agency is of the opinion that with proper design (including solids separation processes and disinfection in some cases) and operation, the level of effluent quality specified can be achieved with waste stabilization ponds. A technical bulletin will be published in the near future which will provide guidance on the design and operation of waste stabilization ponds.

(c) Disinfection must be employed in order to achieve the fecal coliform bacteria levels specified. A few commenters argued that disinfectant is not a secondary treatment process and therefore the fecal coliform bacteria requirements should be deleted. No changes were made because disinfection is considered by the Agency to be an important element of secondary treatment which is necessary for protection of public health (See § 133.102(c)).

Effective date. These regulations shall become effective on August 17, 1973.

JOHN QUARLES,
Acting Administrator

AUGUST 14, 1973.

Chapter I of title 40 of the Code of Federal Regulations is amended by adding a new Part 133 as follows:

Sec.
133.100 Purpose.
133.101 Authority.
133.102 Secondary treatment.
133.103 Special considerations.
133.104 Sampling and test procedures.

AUTHORITY: Secs. 304(d)(1), 301(b)(1)(B), Federal Water Pollution Control Act Amendments, 1972, P.L. 92-500.

§ 133.100 Purpose.

This part provides information on the level of effluent quality attainable through the application of secondary treatment.

§ 133.101 Authority.

The information contained in this Part is provided pursuant to sections 304(d)(1) and 301(b)(1)(B) of the Federal Water Pollution Control Act Amendments of 1972, PL 92-500 (the Act).

§ 133.102 Secondary treatment.

The following paragraphs describe the minimum level of effluent quality attainable by secondary treatment in terms of the parameters biochemical oxygen demand, suspended solids, fecal coliform bacteria and pH. All requirements for each parameter shall be achieved except as provided for in § 133.103.

(a) *Biochemical oxygen demand (5-day).* (1) The arithmetic mean of the values for effluent samples collected in a period of 30 consecutive days shall not exceed 30 milligrams per liter.

(2) The arithmetic mean of the values for effluent samples collected in a period of seven consecutive days shall not exceed 45 milligrams per liter.

(3) The arithmetic mean of the values for effluent samples collected in a period of 30 consecutive days shall not exceed 15 percent of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period (85 percent removal).

(b) *Suspended solids.* (1) The arithmetic mean of the values for effluent samples collected in a period of 30 consecutive days shall not exceed 30 milligrams per liter.

(2) The arithmetic mean of the values for effluent samples collected in a period of seven consecutive days shall not exceed 45 milligrams per liter.

(3) The arithmetic mean of the values for effluent samples collected in a period of 30 consecutive days shall not exceed 15 percent of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period (85 percent removal).

(c) *Fecal coliform bacteria.* (1) The geometric mean of the value for effluent samples collected in a period of 30 consecutive days shall not exceed 200 per 100 milliliters.

(2) The geometric mean of the values for effluent samples collected in a period of seven consecutive days shall not exceed 400 per 100 milliliters.

(d) *pH.* The effluent values for pH shall remain within the limits of 6.0 to 9.0.

§ 133.103 Special considerations.

(a) *Combined sewers.* Secondary treatment may not be capable of meeting the percentage removal requirements of paragraphs (a)(3) and (b)(3) of § 133.102 during wet weather in treatment works which receive flows from combined sewers (sewers which are designed to transport both storm water and sanitary sewage). For such treatment works, the decision must be made on a case-by-case basis as to whether any attainable percentage removal level can be defined, and if so, what that level should be.

(b) *Industrial wastes.* For certain industrial categories, the discharge to navigable waters of biochemical oxygen demand and suspended solids permitted under sections 301(b)(1)(A)(i) or 306 of the Act may be less stringent than the values given in paragraphs (a)(1) and (b)(1) of § 133.102. In cases when wastes would be introduced from such an industrial category into a publicly owned treatment works, the values for biochemical oxygen demand and suspended solids in paragraphs (a)(1) and (b)(1) of § 133.102 may be adjusted upwards provided that: (1) the permitted discharge of such pollutants, attributable to the industrial category, would not be greater than that which would be permitted under sections 301(b)(1)(a)(i) or 306 of the Act if such industrial category were to discharge directly into the navigable waters, and (2) the flow or loading of such pollutants introduced by the industrial category exceeds 10 percent of the design flow or loading of the publicly owned treatment works. When such an adjustment is made, the values for biochemical oxygen demand or suspended solids in paragraphs (a)(2) and (b)(2) of § 133.102 should be adjusted proportionally.

§ 133.104 Sampling and test procedures.

(a) Sampling and test procedures for pollutants listed in § 133.102 shall be in accordance with guidelines promulgated by the Administrator pursuant to sections 304(g) and 402 of the Act.

(b) Chemical oxygen demand (COD) or total organic carbon (TOC) may be substituted for biochemical oxygen demand (BOD) when a long-term BOD:COD or BOD:TOC correlation has been demonstrated.

[FR Doc.73-17194 Filed 8-16-73;8:45 am]

II.

ADMINISTRATIVE REGULATIONS

Title 34—Government Management

CHAPTER II—OFFICE OF FEDERAL MANAGEMENT POLICY, GENERAL SERVICES ADMINISTRATION

SUBCHAPTER D—FINANCIAL MANAGEMENT

PART 255—COST PRINCIPLES APPLICABLE TO GRANTS AND CONTRACTS WITH STATE AND LOCAL GOVERNMENTS

This document converts Office of Management and Budget Circular A–87 into a General Services Administration Federal Management Circular (FMC 74–4) in accordance with Executive Order 11717 and Office of Management and Budget Bulletin 74–4 which transferred certain Office of Management and Budget responsibilities to the General Services Administration.

FMC 74–4, dated July 18, 1974, provides principles for determining costs applicable to grants and contracts with State and local governments.

Effective date. This regulation is effective July 18, 1974.

Dated: July 18, 1974.

DWIGHT A. ING,
Acting Administrator of General Services.

Part 255, Cost principles applicable to grants and contracts with State and local governments, is added to read as set forth below.

Sec.
255.1 Purpose.
255.2 Supersession.
255.3 Policy intent.
255.4 Applicability and scope.
255.5 Appendixes.
255.6 Inquiries.

AUTHORITY: Executive Order 11717 (38 FR 12315, May 11, 1973).

§ 255.1 Purpose.

This part establishes principles and standards for determining costs applicable to grants and contracts with State and local governments.

§ 255.2 Supersession.

The President by Executive Order 11717 transferred the functions covered by this part from the Office of Management and Budget to the General Services Administration. This part is therefore issued as a replacement for previous Office of Management and Budget Circular No. A-87. No substantive changes have been made.

§ 255.3 Policy intent.

This part provides principles for determining the allowable costs of programs administered by State and local governments under grants from and contracts with the Federal Government. They are designed to provide the basis for a uniform approach to the problem of determining costs and to promote efficiency and better relationships between grantees and the Federal Government. The principles are for determining costs only and are not intended to identify the circumstances nor to dictate the extent of Federal and State or local participation in the financing of a particular project. They are designed to provide that federally assisted programs bear their fair share of costs recognized under these principles except where restricted or prohibited by law. No provision for profit or other increment above cost is intended.

§ 255.4 Applicability and scope.

(a) The provisions of this part apply to all Federal agencies responsible for administering programs that involve grants and contracts with State and local governments.

(b) Its provisions do not apply to grants and contracts with:

(1) Publicly financed educational institutions subject to the provisions of Part 254; and

(2) Publicly owned hospitals and other providers of medical care subject to requirements promulgated by the sponsoring Federal agencies.

Any other exceptions will be approved by the General Services Administration in particular cases where adequate justification is presented.

§ 255.5 Appendixes.

The principles and related policy guides are set forth in the appendixes, which are:

Appendix A—Principles for determining costs applicable to grants and contracts with State and local governments.

Appendix B—Standards for selected items of cost.

§ 255.6 Inquiries.

Further information concerning this part may be obtained by contacting:

General Services Administration (AMP)
Washington, DC 20405
Telephone: IDS 183-7747, FTS 202-343-7747

APPENDIX A

PRINCIPLES FOR DETERMINING COSTS APPLICABLE TO GRANTS AND CONTRACTS WITH STATE AND LOCAL GOVERNMENTS

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A. *Purpose and scope.* 1. *Objectives.* This appendix sets forth principles for determining the allowable costs of programs administered by State and local governments under grants from and contracts with the Federal Government. The principles are for the purpose of cost determination and are not intended to identify the circumstances or dictate the extent of Federal and State or local participation in the financing of a particular grant. They are designed to provide that federally assisted programs bear their fair share of costs recognized under these principles, except where restricted or prohibited by law. No provision for profit or other increment above cost is intended.

2. *Policy guides.* The application of these principles is based on the fundamental premises that: a. State and local governments are responsible for the efficient and effective administration of grant and contract programs through the application of sound management practices.

b. The grantee or contractor assumes the responsibility for seeing that federally assisted program funds have been expended and accounted for consistent with underlying agreements and program objectives.

c. Each grantee or contractor organization, in recognition of its own unique combination of staff facilities and experience, will have the primary responsibility for employing whatever form of organization and management techniques may be necessary to assure proper and efficient administration.

3. *Application.* These principles will be applied by all Federal agencies in determining costs incurred by State and local governments under Federal grants and cost reimbursement type contracts (including subgrants and subcontracts) except those with (a) publicly financed educational institutions subject to the provisions of Part 254, and (b) publicly owned hospitals and other providers of medical care subject to requirements promulgated by the sponsoring Federal agencies.

B. *Definitions.* 1. *Approval or authorization of the grantor Federal agency* means documentation evidencing consent prior to incurring specific cost.

2. *Cost allocation plan* means the documentation identifying, accumulating, and distributing allowable costs under grants and contracts together with the allocation methods used.

3. *Cost,* as used herein, means cost as determined on a cash, accrual, or other basis acceptable to the Federal grantor agency as a discharge of the grantee's accountability for Federal funds.

4. *Cost objective* means a pool, center, or area established for the accumulation of cost. Such areas include organizational units, functions, objects or items of expense, as well as ultimate cost objectives including specific grants, projects, contracts, and other activities.

5. *Federal agency* means any department, agency, commission, or instrumentality in the executive branch of the Federal Government which makes grants to or contracts with State or local governments.

6. *Grant* means an agreement between the Federal Government and a State or local government whereby the Federal Government provides funds or aid in kind to carry out specified programs, services, or activities. The principles and policies stated in this part as applicable to grants in general also apply to any federally sponsored cost reimbursement type of agreement performed by a State or local government, including contracts, subcontracts and subgrants.

7. *Grant program* means those activities and operations of the grantee which are necessary to carry out the purposes of the grant, including any portion of the program financed by the grantee.

8. *Grantee* means the department or agency of State or local government which is responsible for administration of the grant.

9. *Local unit* means any political subdivision of government below the State level.

10. *Other State or local agencies* means departments or agencies of the State or local unit which provide goods, facilities, and services to a grantee.

11. *Services*, as used herein, means goods and facilities, as well as services.

12. *Supporting services* means auxiliary functions necessary to sustain the direct effort involved in administering a grant program or an activity providing service to the grant program. These services may be centralized in the grantee department or in some other agency, and include procurement, payroll, personnel functions, maintenance and operation of space, data processing, accounting, budgeting, auditing, mail and messenger service, and the like.

C. *Basic guidelines.* 1. *Factors affecting allowability of costs.* To be allowable under a grant program, costs must meet the following general criteria:

a. Be necessary and reasonable for proper and efficient administration of the grant program, be allocable thereto under these principles, and, except as specifically provided herein, not be a general expense required to carry out the overall responsibilities of State or local governments.

b. Be authorized or not prohibited under State or local laws or regulations.

c. Conform to any limitations or exclusions set forth in these principles, Federal laws, or other governing limitations as to types or amounts of cost items.

d. Be consistent with policies, regulations, and procedures that apply uniformly to both federally assisted and other activities of the unit of government of which the grantee is a part.

e. Be accorded consistent treatment through application of generally accepted accounting principles appropriate to the circumstances.

f. Not be allocable to or included as a cost of any other federally financed program in either the current or a prior period.

g. Be net of all applicable credits.

2. *Allocable costs.* a. A cost is allocable to a particular cost objective to the extent of benefits received by such objective.

b. Any cost allocable to a particular grant or cost objective under the principles provided for in this part may not be shifted to other Federal grant programs to overcome fund deficiencies, avoid restrictions imposed by law or grant agreements, or for other reasons.

c. Where an allocation of joint cost will ultimately result in charges to a grant program, an allocation plan will be required as prescribed in section J.

3. *Applicable credits.* a. Applicable credits refer to those receipts or reduction of expenditure-type transactions which offset or reduce expense items allocable to grants as direct or indirect costs. Examples of such transactions are: purchase discounts; rebates or allowances; recoveries or indemnities on losses; sale of publications, equipment, and scrap; income from personal or incidental services; and adjustments of overpayments or erroneous charges.

b. Applicable credits may also arise when Federal funds are received or are available from sources other than the grant program involved to finance operations or capital items of the grantee. This includes costs arising from the use or depreciation of items donated or financed by the Federal Government to fulfill matching requirements under another grant program. These types of credits should likewise be used to reduce related expenditures in determining the rates or amounts applicable to a given grant.

D. *Composition of cost.* 1. *Total cost.* The total cost of a grant program is comprised of the allowable direct cost incident to its performance, plus its allocable portion of allowable indirect costs, less applicable credits.

2. *Classification of costs.* There is no universal rule for classifying certain costs as either direct or indirect under every accounting system. A cost may be direct with respect to some specific service or function, but indirect with respect to the grant or other ultimate cost objective. It is essential therefore that each item of cost be treated consistently either as a direct or an indirect cost. Specific guides for determining direct and indirect costs allocable under grant programs are provided in the sections which follow.

E. *Direct costs.* 1. *General.* Direct costs are those that can be identified specifically with a particular cost objective. These costs may be charged directly to grants, contracts, or to other programs against which costs are finally lodged. Direct costs may also be charged to cost objectives used for the accumulation of costs pending distribution in due course to grants and other ultimate cost objectives.

2. *Application.* Typical direct costs chargeable to grant programs are: a. Compensation of employees for the time and effort devoted specifically to the execution of grant programs.

b. Cost of materials acquired, consumed, or expended specifically for the purpose of the grant.

c. Equipment and other approved capital expenditures.

d. Other items of expense incurred specifically to carry out the grant agreement.

e. Services furnished specifically for the grant program by other agencies, provided such charges are consistent with criteria outlined in Section G. of these principles.

F. *Indirect costs.* 1. *General.* Indirect costs are those (a) incurred for a common or joint purpose benefiting more than one cost objective, and (b) not readily assignable to the cost objectives specifically benefited, without effort disproportionate to the results achieved. The term "indirect costs," as used herein, applies to costs of this type originating in the grantee department, as well as those incurred by other departments in supplying goods, services, and facilities, to the grantee department. To facilitate equitable distribution of indirect expenses to the cost objectives served, it may be necessary to establish a number of pools of indirect cost within a grantee department or in other agencies providing services to a grantee department. Indirect cost pools should be distributed to benefiting cost objectives on bases which will produce an equitable result in consideration of relative benefits derived.

2. *Grantee departmental indirect costs.* All grantee departmental indirect costs, including the various levels of supervision, are eligible for allocation to grant programs provided they meet the conditions set forth in this part. In lieu of determining the actual amount of grantee departmental indirect cost allocable to a grant program, the following methods may be used:

a. *Predetermined fixed rates for indirect costs.* A predetermined fixed rate for computing indirect costs applicable to a grant may be negotiated annually in situations where the cost experience and other pertinent facts available are deemed sufficient to enable the contracting parties to reach an informed judgment (1) as to the probable level of indirect costs in the grantee department during the period to be covered by the negotiated rate, and (2) that the amount allowable under the predetermined rate would not exceed actual indirect cost.

b. *Negotiated lump sum for overhead.* A negotiated fixed amount in lieu of indirect costs may be appropriate under circumstances where the benefits derived from a grantee department's indirect services cannot be readily determined as in the case of small, self-contained or isolated activity. When this method is used, a determination should be made that the amount negotiated will be approximately the same as the actual indirect cost that may be incurred. Such amounts negotiated in lieu of indirect costs will be treated as an offset to total indirect expenses of the grantee department before allocation to remaining activities. The base on which such remaining expenses are allocated should be appropriately adjusted.

3. *Limitation on indirect costs.* a. Federal grants may be subject to laws that limit the amount of indirect cost that may be allowed. Agencies that sponsor grants of this type will establish procedures which will assure that the amount actually allowed for indirect costs under each such grant does not exceed the maximum allowable under the statutory limitation or the amount otherwise allowable under this part, whichever is the smaller.

b. When the amount allowable under a statutory limitation is less than the amount otherwise allocable as indirect costs under this part, the amount not recoverable as indirect costs under a

grant may not be shifted to another federally sponsored grant program or contract.

G. *Cost incurred by agencies other than the grantee.* 1. *General.* The cost of service provided by other agencies may only include allowable direct costs of the service plus a prorata share of allowable supporting costs (section B.12.) and supervision directly required in performing the service, but not supervision of a general nature such as that provided by the head of a department and his staff assistants not directly involved in operations. However, supervision by the head of a department or agency whose sole function is providing the service furnished would be an eligible cost. Supporting costs include those furnished by other units of the supplying department or by other agencies.

2. *Alternative methods of determining indirect cost.* In lieu of determining actual indirect cost related to a particular service furnished by another agency, either of the following alternative methods may be used provided only one method is used for a specific service during the fiscal year involved.

a. *Standard indirect rate.* An amount equal to ten percent of direct labor cost in providing the service performed by another State agency (excluding overtime, shift, or holiday premiums and fringe benefits) may be allowed in lieu of actual allowable indirect cost for that service.

b. *Predetermined fixed rate.* A predetermined fixed rate for indirect cost of the unit or activity providing service may be negotiated as set forth in section F.2.a.

H. *Cost incurred by grantee department for others.* 1. *General.* The principles provided in section G. will also be used in determining the cost of services provided by the grantee department to another agency.

J. *Cost allocation plan.* 1. *General.* A plan for allocation of costs will be required to support the distribution of any joint costs related to the grant program. All costs included in the plan will be supported by formal accounting records which will substantiate the propriety of eventual charges.

2. *Requirements.* The allocation plan of the grantee department should cover all joint costs of the department as well as costs to be allocated under plans of other agencies or organizational units which are to be included in the costs of federally sponsored programs. The cost allocation plans of all the agencies rendering services to the grantee department, to the extent feasible, should be presented in a single document. The allocation plan should contain, but not necessarily be limited to, the following:

a. The nature and extent of services provided and their relevance to the federally sponsored programs.

b. The items of expense to be included.

c. The methods to be used in distributing cost.

3. *Instructions for preparation of cost allocation plans.* The Department of Health, Education, and Welfare, in consultation with the other Federal agencies concerned, will be responsible for developing and issuing the instructions for use by State and local government grantees in preparation of cost allocation plans. This responsibility applies to both central support services at the State and local government level and indirect cost proposals of individual grantee departments.

4. *Negotiation and approval of indirect cost proposals for States.* a. The Department of Health, Education, and Welfare, in collaboration with the other Federal agencies concerned, will be responsible for negotiation, approval, and audit of cost allocation plans, which will be submitted to it by the States. These plans will cover central support service costs of the State.

b. At the grantee department level in a State, a single Federal agency will have responsibility similar to that set forth in a., above, for the negotiation, approval, and audit of the indirect cost proposal. Cognisant Federal agencies have been designated for this purpose. Changes which may be required from time to time in agency assignments will be arranged by the Department of Health, Education, and Welfare in collaboration with the other interested agencies, and submitted to the General Services Administration for final approval. A current list of agency assignments will be maintained by the Department of Health, Education, and Welfare.

c. Questions concerning the cost allocation plans approved under a. and b., above, should be directed to the agency responsible for such approvals.

5. *Negotiation and approval of indirect cost proposals for local governments.* a. Cost allocation plans will be retained at the local government level for audit by a designated Federal agency except in those cases where that agency requests that cost allocation plans be submitted to it for negotiation and approval.

b. A list of cognisant Federal agencies assigned responsibility for negotiation, approval and audit of central support service cost allocation plans at the local government level is being developed. Changes which may be required from time to time in agency assignments will be arranged by the Department of Health, Education, and Welfare in collaboration with the other interested agencies, and submitted to the General Services Administration for final approval. A current list of agency assignments will be maintained by the Department of Health, Education, and Welfare.

c. At the grantee department level of local governments, the Federal agency with the predominant interest in the work of the grantee department will be responsible for necessary negotiation, approval and audit of the indirect cost proposal.

6. *Resolution of problems.* To the extent that problems are encountered among the Federal agencies in connection with 4. and 5. above, the General Services Administration will lend assistance as required.

APPENDIX B

STANDARDS FOR SELECTED ITEMS OF COST

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4. Entertainment.
5. Fines and penalties.
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7. Interest and other financial costs.
8. Legislative expenses.
9. Underrecovery of costs under grant agreements.

A. *Purpose and applicability.* 1. *Objective.* This appendix provides standards for determining the allowability of selected items of cost.

2. *Application.* These standards will apply irrespective of whether a particular item of cost is treated as direct or indirect cost. Failure to mention a particular item of cost in the standards is not intended to imply that it is either allowable or unallowable, rather determination of allowability in each case should be based on the treatment of standards provided for similar or related items of cost. The allowability of the selected items of cost is subject to the general policies and principles stated in appendix A of this part.

B. *Allowable costs.* 1. *Accounting.* The cost of establishing and maintaining accounting and other information systems required for the management of grant programs is allowable. This includes cost incurred by central service agencies for these purposes. The cost of maintaining central accounting records required for overall State or local government purposes, such as appropriation and fund accounts by the Treasurer, Comptroller, or similar officials, is considered to be a general expense of government and is not allowable.

2. *Advertising.* Advertising media includes newspapers, magazines, radio and television programs, direct mail, trade papers, and the like. The advertising costs allowable are those which are solely for:

a. Recruitment of personnel required for the grant program.

b. Solicitation of bids for the procurement of goods and services required.

c. Disposal of scrap or surplus materials acquired in the performance of the grant agreement.

d. Other purposes specifically provided for in the grant agreement.

3. *Advisory councils.* Costs incurred by State advisory councils or committees established pursuant to Federal requirements to carry out grant programs are allowable. The cost of like organizations is allowable when provided for in the grant agreement.

4. *Audit service.* The cost of audits necessary for the administration and management of functions related to grant programs is allowable.

5. *Bonding.* Costs of premiums on bonds covering employees who handle grantee agency funds are allowable.

6. *Budgeting.* Costs incurred for the development, preparation, presentation, and execution of budgets are allowable. Costs for services of a central budget office are generally not allowable since these are costs of general government. However, where employees of the central budget office actively participate in the grantee agency's budget process, the cost of identifiable services is allowable.

7. *Building lease management.* The administrative cost for lease management which includes review of lease proposals, maintenance of a list of available property for lease, and related activities is allowable.

8. *Central stores.* The cost of maintaining and operating a central stores organization for supplies, equipment, and materials used either directly or indirectly for grant programs is allowable.

9. *Communications.* Communication costs incurred for telephone calls or service, telegraph, teletype service, wide area telephone service (WATS), centrex, telpak (tie lines), postage, messenger service and similar expenses are allowable.

10. *Compensation for personal services.* a. *General.* Compensation for personal services includes all remuneration, paid currently or accrued, for services rendered during the period of performance under the grant agreement, including but not necessarily limited to wages, salaries, and supplementary compensation and benefits (section B.13.). The costs of such compensation are allowable to the extent that total compensation for individual employees: (1) Is reasonable for the services rendered, (2) follows an appointment made in accordance with State or local government laws and rules and which meets Federal merit system or other requirements, where applicable; and (3) is determined and supported as provided in b. below. Compensation for employees engaged in federally assisted activities will be considered reasonable to the extent that it is consistent with that paid for similar work in other activities of the State or local government. In cases where the kinds of employees required for the federally assisted activities are not found in the other activities of the State or local government, compensation will be considered reasonable to the extent that it is comparable to that paid for similar work in the labor market in which the employing government competes for the kind of employees involved. Compensation surveys providing data representative of the labor market involved will be an acceptable basis for evaluating reasonableness.

b. *Payroll and distribution of time.* Amounts charged to grant programs for personal services, regardless of whether treated as direct or indirect costs, will be based on payrolls documented and approved in accordance with generally accepted practice of the State or local agency. Payrolls must be supported by time and attendance or equivalent records for individual employees. Salaries and wages of employees chargeable to more than one grant program or other cost objective will be supported by appropriate time distribution records. The method used should produce an equitable distribution of time and effort.

11. *Depreciation and use allowances.* a. Grantees may be compensated for the use of buildings, capital improvements, and equipment through use allowances or depreciation. Use allowances are the means of providing compensation in lieu of depreciation or other equivalent costs. However, a combination of the two methods may not be used in connection with a single class of fixed assets.

b. The computation of depreciation or use allowance will be based on acquisition cost. Where actual cost records have not been maintained, a reasonable estimate of the original acquisition cost may be used in the computation. The computation will exclude the cost or any portion of the cost of buildings and equipment donated or borne directly or indirectly by the Federal Government through charges to Federal grant programs or otherwise, irrespective of where title was originally vested or where it presently resides. In addition, the computation will also exclude the cost of land. Depreciation or a use allowance on idle or excess facilities is not allowable, except when specifically authorized by the grantor Federal agency.

c. Where the depreciation method is followed, adequate property records must be maintained, and any generally accepted method of computing depreciation may be used. However, the method of computing depreciation must be consistently applied for any specific asset or class of assets for all affected federally sponsored programs and must result in equitable charges considering the extent of the use of the assets for the benefit of such programs.

d. In lieu of depreciation, a use allowance for buildings and improvements may be computed at an annual rate not exceeding two percent of acquisition cost. The use allowance for equipment (excluding items properly capitalized as building cost) will be computed at an annual rate not exceeding six and two-thirds percent of acquisition cost of usable equipment.

e. No depreciation or use charge may be allowed on any assets that would be considered as fully depreciated, provided, however, that reasonable use charges may be negotiated for any such assets if warranted after taking into consideration the cost of the facility or item involved, the estimated useful life remaining at time of negotiation, the effect of any increased maintenance charges or decreased efficiency due to age, and any other factors pertinent to the utilization of the facility or item for the purpose contemplated.

12. *Disbursing service.* The cost of disbursing grant program funds by the Treasurer or other designated officer is allowable. Disbursing services cover the processing of checks or warrants, from preparation to redemption, including the necessary records of accountability and reconciliation of such records with related cash accounts.

13. *Employee fringe benefits.* Costs identified under a. and b. below are allowable to the extent that total compensation for employees is reasonable as defined in section B.10.

a. Employee benefits in the form of regular compensation paid to employees during periods of authorized absences from the job, such as for annual leave, sick leave, court leave, military leave, and the like, if they are: (1) Provided pursuant to an approved leave system, and (2) the cost thereof is equitably allocated to all related activities, including grant programs.

b. Employee benefits in the form of employers' contribution or expenses for social security, employees' life and health insurance plants, unemployment insurance coverage, workmen's compensation insurance, pension plans, severance pay, and the like, provided such benefits are granted under approved plans and are distributed equitably to grant programs and to other activities.

14. *Employee morale, health and welfare costs.* The costs of health or first-aid clinics and/or infirmaries, recreational facilities employees' counseling services, employee information publications, and any related expenses incurred

in accordance with general State or local policy, are allowable. Income generated from any of these activities will be offset against expenses.

15. *Exhibits.* Costs of exhibits relating specifically to the grant programs are allowable.

16. *Legal expenses.* The cost of legal expenses required in the administration of grant programs is allowable. Legal services furnished by the chief legal officer of a State or local government or his staff solely for the purpose of discharging his general responsibilities as legal officer are unallowable. Legal expenses for the prosecution of claims against the Federal Government are unallowable.

17. *Maintenance and repair.* Costs incurred for necessary maintenance, repair, or upkeep of property which neither add to the permanent value of the property nor appreciably prolong its intended life, but keep it in an efficient operating condition, are allowable.

18. *Materials and supplies.* The cost of materials and supplies necessary to carry out the grant programs is allowable. Purchases made specifically for the grant program should be charged thereto at their actual prices after deducting all cash discounts, trade discounts, rebates, and allowances received by the grantee. Withdrawals from general stores or stockrooms should be charged at cost under any recognized method of pricing consistently applied. Incoming transportation charges are a proper part of material cost.

19. *Memberships, subscriptions and professional activities.* a. *Memberships.* The cost of membership in civic, business, technical and professional organizations is allowable provided: (1) The benefit from the membership is related to the grant program, (2) the expenditure is for agency membership, (3) the cost of the membership is reasonably related to the value of the services or benefits received, and (4) the expenditure is not for membership in an organization which devotes a substantial part of its activities to influencing legislation.

b. *Reference material.* The cost of books, and subscriptions to civic, business, professional, and technical periodicals is allowable when related to the grant program.

c. *Meetings and conferences.* Costs are allowable when the primary purpose of the meeting is the dissemination of technical information relating to the grant program and they are consistent with regular practices followed for other activities of the grantee.

20. *Motor pools.* The costs of a service organization which provides automobiles to user grantee agencies at a mileage or fixed rate and/or provides vehicle maintenance, inspection and repair services are allowable.

21. *Payroll preparation.* The cost of preparing payrolls and maintaining necessary related wage records is allowable.

22. *Personnel administration.* Costs for the recruitment, examination, certification, classification, training, establishment of pay standards, and related activities for grant programs, are allowable.

23. *Printing and reproduction.* Cost for printing and reproduction services necessary for grant administration, including but not limited to forms, reports, manuals, and informational literature, are allowable. Publication costs of reports or other media relating to grant program accomplishments or results are allowable when provided for in the grant agreement.

24. *Procurement service.* The cost of procurement service, including solicitation of bids, preparation and award of contracts, and all phases of contract administration in providing goods, facilities and services for grant programs, is allowable.

25. *Taxes.* In general, taxes or payments in lieu of taxes which the grantee agency is legally required to pay are allowable.

26. *Training and education.* The cost of in-service training, customarily provided for employee development which directly or indirectly benefits grant programs is allowable. Out-of-service training involving extended periods of time is allowable only when specifically authorized by the grantor agency.

27. *Transportation.* Costs incurred for freight, cartage, express, postage and other transportation costs relating either to goods purchased, delivered, or moved from one location to another are allowable.

28. *Travel.* Travel costs are allowable for expenses for transportation, lodging, subsistence, and related items incurred by employees who are in travel status on official business incident to a grant program. Such costs may be charged on an actual basis, on a per diem or mileage basis in lieu of actual costs incurred, or on a combination of the two, provided the method used is applied to an entire trip, and results in charges consistent with those normally allowed in like circumstances in nonfederally sponsored activities. The difference in cost between first-class air accommodations and less-than-first-class air accommodations is unallowable except when less-than-first-class air accommodations are not reasonably available.

C. *Costs allowable with approval of grantor agency.* 1. *Automatic data processing.* The cost of data processing services to grant programs is allowable. This cost may include rental of equipment or depreciation on grantee-owned equipment. The acquisition of equipment, whether by outright purchase, rental-purchase agreement or other method of purchase, is allowable only upon specific prior approval of the grantor Federal agency as provided under the selected item for capital expenditures.

2. *Building space and related facilities.* The cost of space in privately or publicly owned buildings used for the benefit of the grant program is allowable subject to the conditions stated below. The total cost of space, whether in a privately or publicly owned building, may not exceed the rental cost of comparable space and facilities in a privately owned building in the same locality. The cost of space procured for grant program usage may not be charged to the program for periods of nonoccupancy, without authorization of the grantor Federal agency.

a. *Rental cost.* The rental cost of space in a privately owned building is allowable.

b. *Maintenance and operation.* The cost of utilities, insurance, security, janitorial services, elevator service, upkeep of grounds, normal repairs and alterations and the like, are allowable to the extent they are not otherwise included in rental or other charges for space.

c. *Rearrangements and alterations.* Cost incurred for rearrangement and alteration of facilities required specifically for the grant program or those that materially increase the value or useful life of the facilities (section C.3.) are allowable when specifically approved by the grantor agency.

d. *Depreciation and use allowances on publicly owned buildings.* These costs are allowable as provided in section B.11.

e. *Occupancy of space under rental-purchase or a lease with option-to-purchase agreement.* The cost of space procured under such arrangements is allowable when specifically approved by the Federal grantor agency.

3. *Capital expenditures.* The cost of facilities, equipment, other capital assets, and repairs which materially increase the value or useful life of capital assets is allowable when such procurement is specifically approved by the Federal grantor agency. When assets acquired with Federal grant funds are (a) sold, (b) no longer available for use in a federally sponsored program, or (c) used for purposes not authorized by the grantor agency, the Federal grantor agency's equity in the asset will be refunded in the same proportion as Federal participation in its cost. In case any assets are traded on new items, only the net cost of the newly acquired assets is allowable.

4. *Insurance and indemnification.* a. Costs of insurance required, or approved and maintained pursuant to the grant agreement, is allowable.

b. Costs of other insurance in connection with the general conduct of activities is allowable subject to the following limitations:

(1) Types and extent and cost of coverage will be in accordance with general State or local government policy and sound business practice.

(2) Costs of insurance or of contributions to any reserve covering the risk of loss of, or damage to, Federal Government property is unallowable except to the extent that the grantor agency has specifically required or approved such costs.

c. Contributions to a reserve for a self-insurance program approved by the Federal grantor agency are allowable to the extent that the type of coverage, extent of coverage, and the rate, and

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payments would have been allowed had insurance been purchased to cover the risks.

d. Actual losses which could have been covered by permissible insurance (through an approved self-insurance program or otherwise) are unallowable unless expressly provided for in the grant agreement. However, costs incurred because of losses not covered under nominal deductible insurance coverage provided in keeping with sound management practice, and minor losses not covered by insurance, such as spoilage, breakage and disappearance of small hand tools which occur in the ordinary course of operations, are allowable.

e. *Indemnification* includes securing the grantee against liabilities to third persons and other losses not compensated by insurance or otherwise. The Government is obligated to indemnify the grantee only to the extent expressly provided for in the grant agreement, except as provided in d. above.

5. *Management studies.* The cost of management studies to improve the effectiveness and efficiency of grant management for ongoing programs is allowable except that the cost of studies performed by agencies other than the grantee department or outside consultants is allowable only when authorized by the Federal grantor agency.

6. *Preagreement costs.* Costs incurred prior to the effective date of the grant or contract, whether or not they would have been allowable thereunder if incurred after such date, are allowable when specifically provided for in the grant agreement.

7. *Professional services.* Cost of professional services rendered by individuals or organizations not a part of the grantee department is allowable subject to such prior authorization as may be required by the Federal grantor agency.

8. *Proposal costs.* Costs of preparing proposals on potential Federal Government grant agreements are allowable when specifically provided for in the grant agreement.

D. *Unallowable costs.* 1. *Bad debts.* Any losses arising from uncollectible accounts and other claims, and related costs, are unallowable.

2. *Contingencies.* Contributions to a contingency reserve or any similar provision for unforeseen events are unallowable.

3. *Contributions and donations.* Unallowable.

4. *Entertainment.* Costs of amusements, social activities, and incidental costs relating thereto, such as meals, beverages, lodgings, rentals, transportation, and gratuities, are unallowable.

5. *Fines and penalties.* Costs resulting from violations of, or failure to comply with Federal, State and local laws and regulations are unallowable.

6. *Governor's expenses.* The salaries and expenses of the Office of the Governor of a State or the chief executive of a political subdivision are considered a cost of general State or local government and are unallowable.

7. *Interest and other financial costs.* Interest on borrowings (however represented), bond discounts, cost of financing and refinancing operations, and legal and professional fees paid in connection therewith, are unallowable except when authorized by Federal legislation.

8. *Legislative expenses.* Salaries and other expenses of the State legislature or similar local governmental bodies such as county supervisors, city councils, school boards, etc., whether incurred for purposes of legislation or executive direction, are unallowable.

9. *Underrecovery of costs under grant agreements.* Any excess of cost over the Federal contribution under one grant agreement is unallowable under other grant agreements.

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II. 2

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PART II

OFFICE OF MANAGEMENT AND BUDGET

■

FEDERAL AND FEDERALLY ASSISTED PROGRAMS AND PROJECTS

Evaluation, review, and coordination

OFFICE OF MANAGEMENT AND BUDGET

[Rev. Circular A-95]

FEDERAL AND FEDERALLY ASSISTED PROGRAMS AND PROJECTS

Evaluation, Review, and Coordination

NOVEMBER 13, 1973.

1. *Purpose.* This Circular furnishes guidance to Federal agencies for added cooperation with State and local governments in the evaluation, review, and coordination of Federal assistance programs and projects. The Circular promulgates regulations (Attachment A) which provide, in part, for:

a. Encouraging the establishment of a project notification and review system to facilitate coordinated planning on an intergovernmental basis for certain Federal assistance programs in furtherance of section 204 of the Demonstration Cities and Metropolitan Development Act of 1966 and Title IV of the Intergovernmental Cooperation Act of 1968 (Attachment B).

b. Coordination of direct Federal development programs and projects with State, areawide, and local planning and programs pursuant to title IV of the Intergovernmental Cooperation Act of 1968.

c. Securing the comments and views of State and local agencies which are authorized to develop and enforce environmental standards on certain Federal or Federally assisted projects affecting the environment pursuant to section 102(2)(C) of the National Environmental Policy Act of 1969 (Attachment (C)) and regulations of the Council on Environmental Quality.

d. Furthering the objectives of title VI of the Civil Rights Act of 1964.

This Circular supersedes Circular No. A-95 (Revised), dated February 9, 1971 as amended by Transmittal Memoranda No. 1, dated July 26, 1971, and No. 2, dated March 8, 1972. It will become effective January 1, 1974.

2. *Basis.* This Circular has been prepared pursuant to:

a. Section 401(a) of the Intergovernmental Cooperation Act of 1968 which provides, in part, that

> The President shall • • • establish rules and regulations governing the formulation, evaluation, and review of Federal programs and projects having a significant impact on area and community development • • •

and the President's Memorandum of November 8, 1968, to the Director of the Bureau of the Budget (33 FR 16487, November 13, 1968) which follows:

> By virtue of the authority vested in me by section 301 of title 3 of the United States Code and section 401(a) of the Intergovernmental Cooperation Act of 1968 (Public Law 90-577), I hereby delegate to you the authority vested in the President to establish the rules and regulations provided for in that section governing the formulation, evaluation, and review of Federal programs and projects having a significant impact on area and community development, including programs providing Federal assistance to the States and localities, to the end that they shall most effectively serve these basic objectives.
>
> In addition, I expect the Bureau of the Budget to generally coordinate the actions of the departments and agencies in exercising the new authorizations provided by the Intergovernmental Cooperation Act, with the objective of consistent and uniform action by the Federal Government.

b. Title IV, section 403, of the Intergovernmental Cooperation Act of 1968 which provides that:

> The Bureau of the Budget or such other agency as may be designated by the President, is hereby authorized to prescribe such rules and regulations as are deemed appropriate for the effective administration of this Title.

c. Section 204(c) of the Demonstration Cities and Metropolitan Development Act of 1966 which provides that:

> The Bureau of the Budget, or such other agency as may be designated by the President, shall prescribe such rules and regulations as are deemed appropriate for the effective administration of this section.

and

d. Reorganization Plan No. 2 of 1970 and Executive Order No. 11541 of July 1, 1970, which vest all functions of the Bureau of the Budget or the Director of the Bureau of the Budget in the Director of the Office of Management and Budget.

3. *Coverage.* The regulations promulgated by this Circular (Attachment A) will have applicability to:

a. Under Part I, all projects and activities (or significant changes thereto) for which Federal assistance is being sought under the programs listed in Attachment D or Appendix I of the Catalog of Federal Domestic Assistance whichever bears the later date. Limitations and provisions for exceptions are noted therein.

Projects and activities under other Federal programs in certain States, where State law (or administrative regulations developed pursuant thereto) so require, unless the head of the Federal program agency determines that such requirements would be inconsistent with the Federal law on which the program is based and the objectives of this Circular.

b. Under Part II, all direct Federal development activities, including the acquisition, use, and disposal of Federal real property.

c. Under Part III, all Federal programs as listed in Appendix II of the Catalog of Federal Domestic Assistance requiring, by statute or administrative regulation, a State plan as a condition of assistance and certain multi-source programs.

d. Under Part IV, all Federal programs providing assistance to State, local, and areawide projects and activities that are planned on a multijurisdictional basis.

4. *Inquiries.* Inquiries concerning this Circular may be addressed to the Office of Management and Budget, Washington, D.C. 20503, telephone (202) 395-3031.

ROY L. ASH,
Director.

ATTACHMENT A—REGULATIONS UNDER SECTION 204 OF THE DEMONSTRATION CITIES AND METROPOLITAN DEVELOPMENT ACT OF 1966, TITLE IV OF THE INTERGOVERNMENTAL COOPERATION ACT OF 1968, AND SECTION 102(2)(C) OF THE NATIONAL ENVIRONMENTAL POLICY ACT OF 1969

PART I—PROJECT NOTIFICATION AND REVIEW SYSTEMS

1. *Purpose.* The purpose of this Part is to:

a. Further the policies and directives of title IV of the Intergovernmental Cooperation Act of 1968 by encouraging the establishment of a network of State and areawide planning and development clearinghouses which will aid in the coordination of Federal or federally assisted projects and programs with State, areawide, and local planning for orderly growth and development.

b. Implement the requirements of section 204 of the Demonstration Cities and Metropolitan Development Act of 1966 for metropolitan areas within that network.

c. Implement, in part, requirements of section 102(2)(C) of the National Environmental Policy Act of 1969, which require that State, areawide, and local agencies which are authorized to develop and enforce environmental standards be given an opportunity to comment on the environmental impact of Federal or federally assisted projects.

d. Provide public agencies charged with enforcing or furthering the objectives of State and local civil rights laws with opportunity to participate in the review process established under this Part.

e. Encourage, by means of early contact between applicants for Federal assistance and State, and local governments, and agencies, an expeditious process of intergovernmental coordination and review of proposed projects.

2. *Notification.* a. Any agency of State or local government or any organization or individual undertaking to apply for assistance to a project (or a renewal or major modification thereto) under a Federal program covered by this Part will be required to notify the State and areawide planning and development clearinghouse in the jurisdiction of which the project is to be located, of its intent to apply for assistance.

In the case of applications for an activity that is State wide or broader in nature (such as for various types of research) and does not have specific applicability to nor affects areawide or local planning and programs, the notification need be sent only to the State clearinghouse. Involvement of areawide clearinghouses in the review in such cases will be at the initiative of the State clearinghouse.

Notification will include a summary description of the project for which assistance will be sought. The summary description will contain the following information, as appropriate and available:

(1) Identity of the applicant agency, organization, or individual.

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(2) The geographic location of the project to be assisted. A map should be provided, if appropriate.

(3) A brief description of the proposed project by type, purpose, general size or scale, estimated cost, beneficiaries, or other characteristics which will enable the clearinghouses to identify agencies of State or local government having plans, programs, or projects that might be affected by the proposed projects.

(4) A statement as to whether or not the applicant has been advised by the funding agency from which assistance is being sought that he will be required to submit environmental impact information in connection with the proposed project.

(5) The Federal program title and number and agency under which assistance will be sought as indicated in Attachment D or the latest Catalog of Federal Domestic Assistance. (The Catalog is issued annually in the spring and is updated periodically during the year.)

(6) The estimated date the applicant expects to formally file an application

Many clearinghouses have developed notification forms and instructions. Applicants are urged to contact their clearinghouses for such information in order to expedite clearinghouse review.

b. In order to assure maximum time for effective coordination and so as not to delay the timely submission of the completed application to the funding agency, notifications containing the preliminary information indicated above should be sent at the earliest feasible time.

c. Applications from federally recognized Indian tribes are not subject to the requirements of this part. However, Indian tribes may voluntarily participate in the Project Notification and Review System and are encouraged to do so. Federal agencies will notify the appropriate State and areawide clearinghouses of any applications from federally recognized Indian tribes upon their receipt.

3. *Clearinghouse functions.* Clearinghouse functions include:

a. Evaluating the significance of proposed Federal or federally assisted projects to State, areawide, or local plans and programs, as appropriate.

b. Receiving and disseminating project notifications to appropriate State agencies in the case of the State clearinghouse and to appropriate local governments and agencies and regional organizations in the case of areawide clearinghouses; and providing liaison, as may be necessary, between such agencies or bodies and the applicant.

c. Assuring, pursuant to section 102 (2)(c) of the National Environmental Policy Act of 1969, that appropriate State, areawide, or local agencies which are authorized to develop and enforce environmental standards are informed of and are given opportunity to review and comment on the environmental significance of proposed projects for which Federal assistance is sought.

d. Providing public agencies charged with enforcing or furthering the objectives of State and local civil rights laws with opportunity to review and comment on the civil rights aspects of the project for which assistance is sought.

e. Providing, pursuant to Part II of these regulations, liaison between Federal agencies contemplating direct Federal development projects and the State, or areawide agencies, or local governments having plans or programs that might be affected by the proposed project.

4. *Consultation and review.* a. State and areawide clearinghouses may have a period of 30 days after receipt of a project notification in which to inform State agencies and local or regional governments or agencies (including agencies authorized to develop and enforce environmental standards and public agencies charged with enforcing or furthering the objectives of State and local civil rights laws) that may be affected by the proposed project and arrange, as may be necessary, to consult with the applicant thereon.

b. During this period and during the period in which the application is being completed, the clearinghouse may work with the applicant in the resolution of any problems raised by the proposed project.

c. Clearinghouses may have, if necessary, an additional 30 days to review the completed application and to transmit to the applicant any comments or recommendations the clearinghouse (or others) may have. Written comments submitted to the areawide clearinghouse by other jurisdictions, agencies, or parties will be included as attachments to the comments of areawide clearinghouses, when they are at variance with the clearinghouse comments; and others from whom comments were solicited should be listed.

d. In the case of a project for which Federal assistance is sought by a special purpose unit of government, clearinghouses will assure that any unit of general local government having jurisdiction over the area in which the project is to be located has opportunity to confer, consult, and comment upon the project and the application.

e. Applicants will include with the completed application as submitted to the Federal agency (or to the State agency in the case of projects for which the State, under certain programs, has final project approval):

(1) Any comments and recommendations made by or through clearinghouses, along with a statement that such comments have been considered prior to submission of the application; or

(2) A statement that the procedures outlined in this section have been followed and that no comments or recommendations have been received.

f. Where areawide clearinghouse jurisdictions are contiguous, coordinative arrangements should be established between the clearinghouses in such areas to assure that projects in one area which may have an impact on the development of a contiguous area are jointly studied. Any comments and recommendations made by or through a clearinghouse in one area on a project in a contiguous area will accompany the application for assistance to that project.

5. *Subject matter of comments and recommendations.* Comments and recommendations made by or through clearinghouses with respect to any project are for the purpose of assuring maximum consistency of such project with State, areawide, and local comprehensive plans. They are also intended to assist the Federal agency (or State agency, in the case of projects for which the State under certain Federal grants has final project approval) administering such a program in determining whether the project is in accord with applicable Federal law. Comments or recommendations, as may be appropriate, may include, but need not be limited to, information about:

a. The extent to which the project is consistent with or contributes to the fulfillment of comprehensive planning for the State, area, or locality.

b. The extent to which the proposed project:

(1) Duplicates, runs counter to, or needs to be coordinated with other projects or activities being carried out in or affecting the area; or

(2) Might be revised to increase its effectiveness or efficiency.

c. The extent to which the project contributes to the achievement of State, areawide, and local objectives and priorities relating to natural and human resources and economic and community development as specified in section 401 of the Intergovernmental Cooperation Act of 1968, including:

(1) Appropriate land uses for housing, commercial, industrial, governmental, institutional, and other purposes;

(2) Wise development and conservation of natural resources, including land, water, mineral, wildlife, and others;

(3) Balanced transportation systems, including highway, air, water, pedestrian, mass transit, and other modes for the movement of people and goods;

(4) Adequate outdoor recreation and open space;

(5) Protection of areas of unique natural beauty, historical and scientific interest;

(6) Properly planned community facilities, including utilities for the supply of power, water, and communications, for the safe disposal of wastes, and for other purposes; and

(7) Concern for high standards of design.

d. As provided under section 102(2)(C) of the National Environmental Policy Act of 1969, the extent to which the project significantly affects the environment including consideration of:

(1) The environmental impact of the proposed project;

(2) Any adverse environmental effects which cannot be avoided should the proposed project be implemented;

(3) Alternatives to the proposed project;

(4) The relationship between local short term uses of man's environment and the maintenance and enhancement of long term productivity; and

(5) Any irreversible and irretrievable commitments of resources which would be involved in the proposed project or action, should it be implemented.

e. The extent to which the project contributes to more balanced patterns of settlement and delivery of services to all sectors of the area population, including minority groups.

f. In the case of a project for which assistance is being sought by a special purpose unit of government, whether the unit of general local government having jurisdiction over the area in which the project is to be located has applied, or plans to apply for assistance for the same or a similar type project. This information is necessary to enable the Federal (or State) agency to make the judgments required under section 402 of the Intergovernmental Cooperation Act of 1968.

6. *Federal agency procedures.* Federal agencies having programs covered under this Part will develop appropriate procedures for:

a. Informing potential applicants for assistance under such programs of the requirements of this Part (1) in program information materials, (2) in response to inquiries respecting application procedures, (3) in pre-application conferences, or (4) by other means which will assure earliest contact between applicant and clearinghouses.

b. Assuring that all applications for assistance under programs covered by this part have been submitted to appropriate clearinghouses for review prior to their submission to the funding agency.

c. Notifying clearinghouses within seven days of any action, (approvals, disapprovals, return for amendment, etc.) taken on applications that have been reviewed by such clearinghouses. Where a State or areawide clearinghouse has assigned an identification number to an application, the Federal agency will refer to such identification numbers in notifying clearinghouses of actions taken on the application.

d. Where a clearinghouse has recommended against approval of an application or approval only with specific and major substantive changes, and the funding agency having the power to approve or disapprove the application substantially as submitted, the funding agency will provide the clearinghouse, in writing, with an explanation therefor.

e. Assuring, in the case of an application submitted by a special purpose unit of government, where accompanying comments indicate that the unit of general local government having jurisdiction over the area in which the project is to be located has submitted or plans to submit an application for assistance for the same or a similar type project, that appropriate considerations and preferences as specified in section 402 of the Intergovernmental Cooperation Act of 1968, are accorded the unit of general local government. Where such preference cannot be so accorded, the agency shall supply, in writing, to the unit of general local government and the Office of Management and Budget its reasons therefor.

7. *OMB Circular No. A-102.* OMB Circular No. A-102 (Attachment M) provides standard application forms for all Federal grant programs to State and local governments except those Federal formula grant programs which do not require grantees to apply for Federal funds on a project basis. The Circular promulgates a Preapplication Form for all construction, land acquisition, and land development projects or programs for which the need for Federal funding exceeds $100,000.

a. Any applicant using the A-102 Preapplication Form for a project under a program covered by this Part will transmit copies of the preapplication to the appropriate State and areawide clearinghouses at the time it is submitted to the Federal agency from which assistance is being sought.

b. Circular No. A-102 requires the Federal agency to respond to a preapplication within 45 days of its receipt. Where a clearinghouse wishes to make any comments on the project, it may submit such comments directly to the Federal agency and the applicant. The Federal agency will consider any such comments received prior to completion of its own review of the preapplication and notify the clearinghouse of its action on the preapplication. Clearinghouses should also notify the Federal agency if they have no comment.

c. Any comment by a clearinghouse endorsing or withholding endorsement of the project during the preapplication stage will not be considered a substitute for review under this Part unless the clearinghouse so indicates. All consultations and conferences between applicants and clearinghouses subsequent to submission of the preapplication or review of completed final applications will be carried out as described under paragraph 4 of this Part.

8. *Housing programs.* Because of the unique nature of housing programs of the Department of Housing and Urban Development, the Veterans Administration, and the Farmers Home Administration of the Department of Agriculture a variation of the review procedure is necessary. For such programs, the following procedure for review will be followed:

a. The appropriate HUD, VA, or USDA/FHA office will transmit to the appropriate State and areawide clearinghouses a copy of the initial application for project approval.

b. Clearinghouses will have 30 days from receipt to review the applications and to forward to the HUD, VA, or USDA/FHA office any comments which they may have, including observations concerning the consistency of the proposed project with State and areawide development plans, the extent to which the proposed project will provide housing opportunities for all segments of the community, and identification of major environmental concerns. Processing of applications in the HUD, VA, or USDA/FHA office will proceed concurrently with the clearinghouse review.

c. This procedure will include only applications involving new construction and will apply to applications for loans, loan guarantees, mortgage insurance, or other housing assistance:

(1) In cities over 50,000 population and contiguous urbanized areas having a population density of over 100 persons per square mile, to:

(a) Subdivisions having 25 or more lots.

(b) Multifamily projects having 50 or more dwelling units.

(c) Mobile home courts with 50 or more spaces.

(d) College housing provided under the debt service or direct loan programs for 200 or more students.

(2) In all other areas, to:

(a) Subdivisions having 10 or more lots.

(b) Multifamily projects having 25 or more dwelling units.

(c) Mobile home courts with 25 or more spaces.

(d) College housing provided under the debt service or direct loan programs for 100 or more students.

9. *Exceptions.* a. Heads of Federal departments and agencies may, with the concurrence of the Office of Management and Budget, exclude certain categories of projects or activities under listed programs from the requirements of Attachment A, Part I. OMB concurrence will be based on the following criteria:

(1) Lack of geographic identifiability with respect to location or impact (e.g., certain types of technical studies);

(2) Small scale or size;

(3) Essentially local impact (within the applicant jurisdiction); and

(4) Other characteristics that make review impractical. OMB will notify clearinghouses of such exclusions.

b. In the case of any exception, applicants are, nevertheless, required to send copies of the application to the clearinghouses at the time it is submitted to the Federal agency. The Federal agency will consider any clearinghouse comments up until the time the application has been processed. Comments should be sent directly to the Federal agency.

c. Exceptions will be reviewed periodically by the Office of Management and Budget.

d. Individual clearinghouses may except certain types of projects from review for reasons indicated above or for other reasons appropriate to the State or area.

10. *Reports and directories.* a. The Director of the Office of Management and Budget may require reports, from time to time, on the implementation of this Part.

b. The Office of Management and Budget will maintain and distribute to appropriate Federal agencies a directory of State and areawide clearinghouses.

c. The Office of Management and Budget will notify clearinghouses and Federal agencies of any excepted categories of projects under covered programs.

PART II—DIRECT FEDERAL DEVELOPMENT

1. *Purpose.* The purpose of this Part is to:

a. Provide State and local government with information on projected Federal

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development so as to facilitate coordination with State, areawide, and local plans and programs.

b. Provide Federal agencies with information on the relationship of proposed direct Federal development projects and activities to State, areawide, and local plans and programs; and to assure maximum feasible consistency of Federal developments with State, areawide, and local plans and programs.

c. Provide Federal agencies with information on the possible impact on the environment of proposed Federal development.

2. *Coordination of direct Federal development projects with State, areawide, and local development.* a. Federal agencies having responsibility for the planning and construction of Federal buildings and installations or other Federal public works or development or for the acquisition, use, and disposal of Federal land and real property will establish procedures for:

(1) Consulting with Governors, State and areawide clearinghouses, and local elected officials at the earliest practicable stage in project or development planning on the relationship of any plan or project to the development plans and programs of the State, area, or locality in which the project is to be located.

(2) Assuring that any such Federal plan or project is consistent or compatible with State, areawide, and local development plans and programs identified in the course of such consultations. Exceptions will be made only where there is clear justification.

(3) Providing State, areawide, and local agencies which are authorized to develop and enforce environmental standards with adequate opportunity to review such Federal plans and projects pursuant to section 102(2)(C) of the National Environmental Policy Act of 1969. Any comments of such agencies will accompany the environmental impact statement submitted by the Federal agency.

(4) Through the appropriate clearinghouses providing State and areawide agencies which are authorized to perform comprehensive health planning (under Sections 314a and 314b of the Public Health Service Act) with adequate opportunity to review Federal projects for construction and/or equipment involving capital expenditures exceeding $200,000 for modernization, conversion, and expansion of Federal inpatient care facilities, which alter the bed capacity or modify the primary function of the facility, as well as plans for provision of major new medical care services. (Excluded are projects to renovate or install mechanical systems, air conditioning systems, or other similar internal system modifications.) The comments of such agencies will accompany the plan and budget requests submitted by the Federal agency to the Office of Management and Budget or a certification that the agencies had been provided a reasonable time to comment and had failed to do so.

3. *Use of clearinghouses.* The State and areawide planning and development clearinghouses established pursuant to Part I will be utilized to the greatest extent practicable to effectuate the requirements of this Part. Agencies are urged to establish early contact with clearinghouses to work out arrangements for carrying out the consultation and review required under this Part, including identification of types of projects considered appropriate for consultation and review.

PART III.—STATE PLANS AND MULTISOURCE PROGRAMS

1. *Purpose.* The purpose of this Part is to provide Federal agencies with information about the relationship to State or areawide comprehensive planning of State plans or multisource programs which are required or form the basis for funding under various Federal programs.

2. *State plans.* To the extent not presently required by statute or administrative regulation, Federal agencies administering programs requiring by statute or regulation a State plan as a condition of assistance under such programs will require that the Governor, or his delegated agency, be given the opportunity to comment on the relationship of such State plan to comprehensive and other State plans and programs and to those of affected areawide or local jurisdictions. To the extent practical, the Governor is encouraged to involve areawide clearinghouses in the review of State plans.

a. The Governor will be afforded a period of 45 days in which to make such comments, and any such comments will be transmitted with the plan.

b. A "State plan" under this Part is defined to include any required supporting planning reports or documentation that indicate the programs, projects, and activities for which Federal funds will be utilized. Such reports or documentation will also be submitted for review at the request of the Governor or the agency he has designated to perform review under this Part.

c. Programs requiring State plans are listed in Appendix II of the Catalog of Federal Domestic Assistance.

3. *Multisource programs.* A "multisource program" under this Part is a program or programs of related activities for which assistance is sought, on a combined or coordinated basis, involving two or more Federal programs or funding authorities.

a. Federal agencies administering or participating in the administration of multisource programs will require that appropriate State and areawide clearinghouses be given the opportunity to comment on the relationship of any proposed multisource program to State or areawide comprehensive plans and programs. Clearinghouses will be afforded a period of 45 days in which to make such comments, and any comments will be transmitted with the application for assistance under such multisource program.

b. Multisource programs include the following programs, plus such other programs as the Office of Management and Budget shall specify from time to time:

(1) Integrated Grant Administration (IGA).

(2) Unified Work Program (DOT 1130.2).

(3) Environmental Protection—Consolidated Program Grants (EPA).

(4) Areawide Manpower Plans (DOL).

PART IV—COORDINATION OF PLANNING IN MULTIJURISDICTIONAL AREAS

1. *Policies and objectives.* The purposes of this Part are:

a. To encourage and facilitate State and local initiative and responsibility in developing organizational and procedural arrangements for coordinating comprehensive and functional planning activities.

b. To eliminate overlap, duplication, and competition in State and local planning activities assisted or required under Federal programs and to encourage the most effective use of State and local resources available for development planning.

c. To minimize inconsistency among Federal administrative and approval requirements placed on State and areawide development planning activities.

d. To encourage the States to exercise leadership in delineating and establishing a system of planning and development districts or regions in each State, which can provide a consistent geographic base for the coordination of Federal, State, and local development programs.

e. To encourage Federal agencies administering programs assisting or requiring areawide planning to utilize agencies that have been designated to perform areawide comprehensive planning in planning and development districts or regions established pursuant to subparagraph d above and that have been designated areawide clearinghouses pursuant to Part I of Attachment A of this Circular to carry out or coordinate planning under such programs. In the case of interstate metropolitan areas, agencies designated as metropolitan areawide clearinghouses should be utilized to the extent possible to carry out or coordinate Federally assisted or required areawide planning.

2. *Common or consistent planning and development districts or regions.* a. Prior to the designation or redesignation (or approval thereof) of any planning and development district or region under any Federal program, Federal agency procedures will provide a period of 30 days for the Governor(s) of the State(s) in which the district or region will be located to review the boundaries thereof and comment upon its relationship to planning and development districts or regions established by the State. Where the State has established such planning and development districts, the boundaries of areas designated under Federal programs will conform to them unless there is clear justification for not doing so.

b. Where the State has not established planning and development districts or

regions which provide a basis for evaluation of the boundaries of the area proposed for designation, major units of general local government and the appropriate Federal Regional Council in such areas will also be consulted prior to designation of the area to assure consistency with districts established under interlocal agreement and under related Federal programs.

c. The Office of Management and Budget will be notified through the appropriate Federal Regional Council by Federal agencies of any proposed designation and will be informed of such designation when it is made.

3. *Common and consistent planning bases and coordination of related activities in multijurisdictional areas.* Each agency will develop procedures and requirements for applications for areawide planning and development assistance under appropriate programs to assure the fullest consistency and coordination with related planning and development being carried on by the areawide clearinghouse designated under Part I of this Circular in the multijurisdictional area.

Such procedures shall include provision for submission to the funding agency by any applicant for areawide planning assistance, if the applicant is other than an areawide comprehensive planning agency referred to in paragraph 1e of this Part, of a memorandum of agreement between the applicant and such areawide comprehensive planning agency covering the means by which their planning activities will be coordinated. The agreement will cover but need not be limited to the following matters:

a. Identification of relationships between the planning proposed by the applicant and that of the areawide agency and of similar or related activities that will require coordination;

b. The organizational and procedural arrangements for coordinating such activities, such as: Overlapping board membership, procedures for joint reviews of projected activities and policies, information exchange, etc.;

c. Cooperative arrangements for sharing, planning resources (funds, personnel, facilities, and services);

d. Agreed upon base data, statistics, and projections (social, economic, demographic) on the basis of which planning in the area will proceed.

Where an applicant has been unable to effectuate such an agreement, he will submit a statement indicating the efforts he has made to secure agreement and the issues that have prevented it. In such case, the funding agency, in consultation with the Federal Regional Council and the State clearinghouse designated under Part I, will undertake, within a 30 day period after receipt of the application, resolution of the issues before approving the application, if it is otherwise in good order.

4. *Joint funding.* Where it will enhance the quality, comprehensive scope, and coordination of planning in multijurisdictional areas, Federal agencies will, to the extent practicable, provide for joint funding of planning activities being carried on therein.

5. *Coordination of agency procedures and requirements.* With respect to the steps called for in paragraphs 2 and 3 of this Part, departments and agencies will develop for relevant programs appropriate draft procedures and requirements. Copies of such drafts will be furnished to the Director of the Office of Management and Budget and to the heads of departments and agencies administering related programs. The Office, in consultation with the agencies, will review the draft procedures to assure the maximum obtainable consistency among them.

PART V—DEFINITIONS

Terms used in this circular will have the following meanings:

1. *Federal agency.* Any department, agency, or instrumentality in the executive branch of the Government and any wholly owned Government corporation.

2. *State.* Any of the several States of the United States, the District of Columbia, Puerto Rico, any territory or possession of the United States, or any agency or instrumentality of a State, but does not include the governments of the political subdivisions of the State.

3. *Unit of general local government.* Any city, county, town, parish, village, or other general purpose political subdivisions of a State.

4. *Special purpose unit of local government.* Any special, district, public purpose corporation, or other strictly limited purpose political subdivision of a State, but shall not include a school district.

5. *Federal assistance, Federal financial assistance, Federal assistance programs, or federally assisted program.* Programs that provide assistance through grant or contractual arrangements. They include technical assistance programs, or programs providing assistance in the form of loans, loan guarantees, or insurance. The term does not include any annual payment by the United States to the District of Columbia authorized by article VI of the District of Columbia Revenue Act of 1947 (D.C. Code sec. 47-2501a and 47-2501b).

6. *Funding agency.* The Federal agency or, in the case of certain formula grant programs, the State agency which is responsible for final approval of applications for assistance.

7. *Comprehensive planning.* To the extent directly related to area needs or needs of a unit of general local government, including the following:

a. Preparation, as a guide for governmental policies and action, of general plans with respect to:

(1) Pattern and intensity of land use.

(2) Provision of public facilities (including transportation facilities) and other government services.

(3) Effect development and utilization of human and natural resources.

b. Preparation of long range physical and fiscal plans for such action.

c. Programming of capital improvements and other major expenditures, based on a determination of related urgency, together with definitive financing plans for such expenditures in the earlier years of the program.

d. Coordination of all related plans and activities of the State and local governments and agencies concerned.

e. Preparation of regulatory and administrative measures in support of the foregoing.

8. *Metropolitan area.* A standard metropolitan statistical area as established by the Office of Management and Budget, subject, however, to such modifications and extensions as the Office of Management and Budget may determine to be appropriate for the purposes of section 204 of the Demonstration Cities and Metropolitan Development Act of 1966, and these Regulations.

9. *Areawide.* Comprising, in metropolitan areas, the whole of contiguous urban and urbanizing areas; and in nonmetropolitan areas, contiguous counties or other multijurisdictional areas having common or related social, economic, or physical characteristics indicating a community of developmental interest; or, in either, the area included in a substate district designated pursuant to paragraph 1d, Part IV, Attachment A of this Circular.

10. *Planning and development clearinghouse or clearinghouse* includes:

a. *State clearinghouse.* An agency of the State Government designated by the Governor or by State law to carry out the requirements of Part I of Attachment A of this Circular.

b. *Areawide clearinghouse.* (1) In nonmetropolitan areas a comprehensive planning agency designated by the Governor (or Governors in the case of regions extending into more than one State) or by State law to carry out requirements of this Circular; or

(2) In metropolitan areas an areawide agency that has been recognized by the Office of Management and Budget as an appropriate agency to perform review functions under section 204 of the Demonstration Cities and Metropolitan Development Act of 1966, Title IV of the Intergovernmental Cooperation Act of 1968, and this Circular.

11. *Multijurisdictional area.* Any geographical area comprising, encompassing, or extending into more than one unit of general local government.

12. *Planning and development district or region.* A multijurisdictional area that has been formally designated or recognized as an appropriate area for planning under State law or Federal program requirements.

13. *Direct Federal development.* Planning and construction of public works, physical facilities and installations or land and real property development (including the acquisition, use, and disposal of real property) undertaken by or for the use of the Federal Government or any of its agencies.

ATTACHMENT B

SECTION 204 OF THE DEMONSTRATION CITIES AND METROPOLITAN DEVELOPMENT ACT OF 1966 AS AMENDED (80 STAT. 1263, 82 STAT. 208)

SEC. 204. (a) All applications made after June 30, 1967, for Federal loans or grants to assist in carrying out open-space land projects or for planning or construction of hospitals, airports, libraries, water supply and distribution facilities, sewage facilities and waste treatment works, highways, transportation facilities, law enforcement facilities, and water development and land conservation projects within any metropolitan area shall be submitted for review—

(1) To any areawide agency which is designated to perform metropolitan or regional planning for the area within which the assistance is to be used, and which is, to the greatest practicable extent, composed of or responsible to the elected officials of a unit of areawide government or of the units of general local government within whose jurisdiction such agency is authorized to engage in such planning, and

(2) If made by a special purpose unit of local government, to the unit or units of general local government with authority to operate in the area within which the project is to be located.

(b)(1) Except as provided in paragraph (2) of this subsection, each application shall be accompanied (A) by the comments and recommendations with respect to the project involved by the areawide agency and governing bodies of the units of general local government to which the application has been submitted for review, and (B) by a statement by the applicant that such comments and recommendations have been considered prior to formal submission of the application. Such comments shall include information concerning the extent to which the project is consistent with comprehensive planning developed or in the process of development for the metropolitan area or the unit of general local government, as the case may be, and the extent to which such project contributes to the fulfillment of such planning. The comments and recommendations and the statement referred to in this paragraph shall, except in the case referred to in paragraph (2) of this subsection, be reviewed by the agency of the Federal Government for which such application is submitted for the sole purpose of assisting it in determining whether the application is in accordance with the provisions of Federal law which govern the making of the loans or grants.

(2) An application for a Federal loan or grant need not be accompanied by the comments and recommendations and the statements referred to in paragraph b(1) of this subsection, if the applicant certifies that a plan or description of the project, meeting the requirements of such rules and regulations as may be prescribed under subsection (c), or such application, has lain before an appropriate areawide agency or instrumentality or unit of general local government for a period of sixty days without comments or recommendations thereon being made by such agency or instrumentality.

(3) The requirements of paragraphs (1) and (2) shall also apply to any amendment of the application which, in light of the purposes of this title, involves a major change in the project covered by the application prior to such amendment.

(c) The Bureau of the Budget, or such other agency as may be designated by the President, is hereby authorized to prescribe such rules and regulations as are deemed appropriate for the effective administration of this section.

TITLE IV OF THE INTERGOVERNMENTAL COOPERATION ACT OF 1968 (82 STAT. 1103)

TITLE IV—COORDINATED INTERGOVERNMENTAL POLICY AND ADMINISTRATION OF DEVELOPMENT ASSISTANCE PROGRAMS

DECLARATION OF DEVELOPMENT ASSISTANCE POLICY

SEC. 401. (a) The economic and social development of the Nation and the achievement of satisfactory levels of living depend upon the sound and orderly development of all areas, both urban and rural. Moreover, in a time of rapid urbanization, the sound and orderly development of urban communities depends to a large degree upon the social and economic health and the sound development of small communities and rural areas. The President shall, therefore, establish rules and regulations governing the formulation, evaluation, and review of Federal programs and projects having a significant impact on area and community development, including programs providing Federal assistance to the States and localities, to the end that they shall most effectively serve these basic objectives. Such rules and regulations shall provide for full consideration of the concurrent achievement of the following specific objectives and, to the extent authorized by law, reasoned choices shall be made between such objectives when they conflict:

(1) Appropriate land uses for housing, commercial, industrial, governmental, institutional, and other purposes;

(2) Wise development and conservation of natural resources, including land, water, minerals, wildlife, and others;

(3) Balanced transportation systems, including highway, air, water, pedestrian, mass transit, and other modes for the movement of people and goods;

(4) Adequate outdoor recreation and open space;

(5) Protection of areas of unique natural beauty, historical and scientific interest;

(6) Properly planned community facilities, including utilities for the supply of power, water, and communications, for the safe disposal of wastes, and for other purposes; and

(7) Concern for high standards of design.

(b) All viewpoints—national, regional, State, and local—shall, to the extent possible, be fully considered and taken into account in planning Federal or federally assisted development programs and projects. State and local government objectives, together with the objectives of regional organizations shall be considered and evaluated within a framework of national public objectives, as expressed in Federal law, and available projections of future national conditions and needs of regions, States, and localities shall be considered in plan formulation, evaluation, and review.

(c) To the maximum extent possible, consistent with national objectives, all Federal aid for development purposes shall be consistent with and further the objectives of State, regional, and local comprehensive planning. Consideration shall be given to all developmental aspects of our total national community, including but not limited to housing, transportation, economic development, natural and human resources development, community facilities, and the general improvement of living environments.

(d) Each Federal department and agency administering a development assistance program shall, to the maximum extent practicable, consult with and seek advice from all other significantly affected Federal departments and agencies in an effort to assure fully coordinated programs.

(e) Insofar as possible, systematic planning required by individual Federal programs (such as highway construction, urban renewal, and open space) shall be coordinated with and, to the extent authorized by law, made part of comprehensive local and areawide development planning.

FAVORING UNITS OF GENERAL LOCAL GOVERNMENT

SEC. 402. Where Federal law provides that both special-purpose units of local government and units of general local government are eligible to receive loans or grants-in-aid, heads of Federal departments and agencies shall, in the absence of substantial reasons to the contrary, make such loans or grants-in-aid to units of general local government rather than to special-purpose units of local government.

RULES AND REGULATIONS

SEC. 403. The Bureau of the Budget, or such other agency as may be designated by the President, is hereby authorized to prescribe such rules and regulations as are deemed appropriate for the effective administration of this title.

ATTACHMENT C—SECTION 102(2)(C) OF THE NATIONAL ENVIRONMENTAL POLICY ACT OF 1969 (83 STAT. 853)

SEC. 102. The Congress authorizes and directs that, to the fullest extent possible; (1) the policies, regulations, and public laws of the United States shall be interpreted and administered in accordance with the policies set forth in this Act, and (2) all agencies of the Federal Government shall—

* * * * *

(C) include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on—

(i) The environmental impact of the proposed action,

(ii) Any adverse environmental effects which cannot be avoided should the proposal be implemented,

(iii) Alternatives to the proposed action,

(iv) The relationship between local short-term use of man's environment and the maintenance and enhancement of long-term productivity, and

(v) Any irreversible or irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

Prior to making any detailed statement, the responsible Federal official shall consult with and obtain the comments of any Federal agency which has jurisdiction by law or special expertise with respect to any environmental impact involved. Copies of such statement and the comments and views of the appropriate Federal, State, and local agencies, which are authorized to develop and enforce environmental standards, shall be made available to the President, the Council on Environmental Quality and to the public as provided by section 552 of Title 5, United States Code, and shall accompany the proposal through the existing agency review processes; * * *.

ATTACHMENT D—COVERAGE OF PROGRAMS UNDER ATTACHMENT A, PART I

1. Programs listed below are referenced several ways, due to transitional phases in program development, special revenue sharing, etc. Generally, citations are to programs as they are listed in the June, 1972 Catalog of Federal Domestic Assistance. Asterisks indicate references to the 1972 Catalog. For certain new legislation, Catalog citations have not yet been developed. In such cases, references are

to Public Law number and section. When no funding is available for a program, it is not generally listed in the Catalog or this Attachment. The Catalog is issued annually and revised periodically during the year. Every effort will be made to keep Appendix I and Attachment D current. Reference should always be made to the one bearing the latest issued date.

2. Heads of Federal departments and agencies may, with the concurrence of the Office of Management and Budget, exclude certain categories of projects or activities under listed programs from the requirements of Attachment A, Part I. See Part I, paragraph 9.

3. *Covered programs.*

DEPARTMENT OF AGRICULTURE

10.409 Irrigation, Drainage, and Other Soil and Water Conservation Loans.
10.411 Rural Housing Site Loans.
10.414 Resource Conservation and Development Loans.
10.415 Rural Rental Housing Loans.
10.418 Water and Waste Disposal Systems for Rural Communities.
10.419 Watershed Protection and Flood Prevention Loans.
10.901 Resources Conservation and Development.
10.904 Watershed Protection and Flood Prevention (Exception: Small projects costing under $7500 for erosion and sediment control and land stabilization and for rehabilitation and consolidation of existing irrigation systems).

DEPARTMENT OF COMMERCE/EDA

11.300* Economic Development—Grants and Loans for Public Works and Development Facilities.
11.302* Economic Development—Planning Assistance.
11.303* Economic Development—Technical Assistance.
11.304 Economic Development—Public Works Impact Projects.

DEPARTMENT OF DEFENSE

12.101 Beach Erosion Control Projects.
12.106 Flood Control Projects.
12.107 Navigation Projects.
12.108 Snagging and Clearing for, Flood Control.

DEPARTMENTAL OF HEALTH, EDUCATION, AND WELFARE

13.206 Comprehensive Health Planning—Areawide Grants.
13.210 Comprehensive Public Health Services—Formula Grants.
13.220 Health Facilities Construction—Grants.
13.226* Health Services Research and Development Grants.
13.236 Mental Health—Community Assistance Grants for Narcotic Addiction and Drug Abuse.
13.240 Mental Health—Community Mental Health Centers.
13.246 Migrant Health Grants.
13.249* Regional Medical Programs.
13.251 Mental Health—Community Assistance Grants for Comprehensive Alcoholism Services.
13.253 Mental Health—Direct Grants for Projects (Alcoholism).
13.283 Health Facilities Construction—Loans and Loan Guarantees.
13.284 Mental Health—Direct Grants for Special Projects (Narcotic Addiction and Drug Abuse).
13.286 Health Maintenance Organization Service (HMOS).
13.287 Urban Rat Control.
13.340* Health Professions, Teaching Facilities—Construction Grants.
13.350 Medical Library Assistance—Regional Medical Libraries.
13.369 Nursing School Construction.
13.378* Health Professional, Teaching Facilities—Loan Guarantees and Interest Subsidies.
13.392 Cancer—Construction.
13.401 Adult Education—Special Projects.
13.408* Construction of Public Libraries.
13.477 School Assistance in Federally Affected Areas—Construction.
13.493 Vocational Education—Basic Grants to States.
13.494 Vocational Education—Consumer and Homemaking.
13.495 Vocational Education—Cooperative Education.
13.499 Vocational Education—Special Needs.
13.501 Vocational Education—Work Study.
13.502 Vocational Education—Innovation.
13.516 Preschool, Elementary and Secondary Education—Special Programs and Projects.
13.519 Supplementary Education Centers and Services, Guidance, Counseling, and Testing (PACE).
13.600 Child Development-Head Start.
13.746 Rehabilitation Services and Facilities-Basic Support.
13.753 Development Disabilities-Basic Support.
13.756 Aging-Special Support Programs.
13.763 Rehabilitation Services and Facilities-Special Projects.
13.764 Youth Development and Delinquency Prevention.

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

14.103 Interest Reduction Payments-Rental and Cooperative Housing and Lower Income Families.
14.105 Interest Subsidy-Homes for Lower Income Families.
14.112 Mortgage Insurance-Construction or Rehabilitation of Condominium Projects.
14.115 Mortgage Insurance-Development of Sales-Type Cooperative Projects.
14.116 Mortgage Insurance-Group Practice Facilities.
14.117 Mortgage Insurance-Homes.
14.118 Mortgage Insurance-Homes for Certified Veterans.
14.119 Mortgage Insurance-Homes for Disaster Victims.
14.120 Mortgage Insurance-Homes for Low and Moderate Income Families.
14.121 Mortgage Insurance-Homes in Outlying Areas.
14.122 Mortgage Insurance-Homes in Urban Renewal Areas.
14.124 Mortgage Insurance-Investor Sponsored Cooperative Housing.
14.125 Mortgage Insurance-Land Development and New Communities.
14.126 Mortgage Insurance-Management-Type Cooperative Projects.
14.127 Mortgage Insurance-Mobile Home Courts.
14.128 Mortgage Insurance-Hospitals.
14.129 Mortgage Insurance-Nursing Homes and Intermediate Care Facilities.
14.134 Mortgage Insurance-Rental Housing.
14.135 Mortgage Insurance-Rental Housing for Moderate Income Families.
14.137 Mortgage Insurance-Rental Housing for Low and Moderate Income Families, Market Interest Rate.
14.138 Mortgage Insurance-Rental Housing for the Elderly.
14.139 Mortgage Insurance-Rental Housing in Urban Renewal Areas.
14.141 Nonprofit Housing Sponsor Loans-Planning Projects for Low and Moderate Income Housing.
14.148 Public Housing-Acquisition (with or without rehabilitation) and Construction (new construction only).
14.149 Rental Supplements-Rental Housing for Lower Income Families.
14.203 Comprehensive Planning Assistance.
14.207 New Communities-Loan Guarantees.
14.214 Urban Systems Engineering Demonstration Grants.
14.307 Urban Renewal Projects.

DEPARTMENT OF THE INTERIOR

15.400 Outdoor Recreation-Acquisition and Development.
15.401 Outdoor Recreation State Planning-Financial Assistance.
15.801 Irrigation Distribution System Loans.
15.803 Small Reclamation Projects.
15.904 Historic Preservation.

DEPARTMENT OF JUSTICE

16.500 Law Enforcement Assistance-Comprehensive Planning Grants.
16.501 Law Enforcement Assistance-Discretionary Grants.
16.502 Law Enforcement Assistance-Improving and Strengthening Law Enforcement.

DEPARTMENT OF LABOR

17.211 Job Corps.
17.212 Job Opportunities in the Business Sector (Excluding National Contracts).
17.226 Work Incentive Program-Training and Allowances.
17.230 Migrant Workers.
17.232 Comprehensive Manpower Programs.

DEPARTMENT OF TRANSPORTATION

20.102 Airport Development Aid Program.
20.103 Airport Planning Grant Program.
20.201 Forest Highways.
20.204 Highway Beautification-Landscaping and Scenic Enhancement.
20.205 Highway Research, Planning, and Construction.
20.209 Public Lands Highways.
20.500 Urban Mass Transportation Capital Improvement Grants (Planning and Construction only).
20.501 Urban Mass Transportation Capital Improvement Loans (Planning and construction only).
20.505 Urban Mass Transportation Technical Studies Grants (planning and construction only).

APPALACHIAN REGIONAL COMMISSION

23.003 Appalachian Development Highway System.
23.004 Appalachian Health Demonstration.
23.008 Appalachian Housing Fund.
23.009 Appalachian Local Access Roads.
23.010 Appalachian Mine Area Restoration.
23.011 Appalachian State Research, Technical Assistance, and Demonstration Projects.
23.012 Appalachian Vocational Education Facilities and Operations.
23.013 Appalachian Child Development.
23.016 Appalachian Vocational Education and Technical Education Demonstration Grants.

COASTAL PLAINS REGIONAL COMMISSION

28.001 Coastal Plain Regional Economic Development.

FOUR CORNERS REGIONAL COMMISSION

29.001 Four Corners Regional Economic Development.

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NATIONAL SCIENCE FOUNDATION

47.036 Intergovernmental Science and Research Utilization.

NEW ENGLAND REGIONAL COMMISSION

48.001 New England Regional Economic Development.

OFFICE OF ECONOMIC OPPORTUNITY*

49.002 Community Action (excluding administration, research, training and technical assistance, and evaluation).
49.003 Comprehensive Health Services (To HEW).
49.004 Drug Rehabilitation (To HEW).
49.006 Family Planning (To HEW).
49.009 Migrant and Seasonal Farmworkers Assistance (To DOL).
49.011 Community Economic Development (To OMBE/DOC).

OZARKS REGIONAL COMMISSION

52.001 Ozarks Regional Economic Development.

SMALL BUSINESS ADMINISTRATION

59.015 State and Local Development Company Loans (Construction only).

UPPER GREAT LAKES REGIONAL COMMISSION

63.001 Upper Great Lakes Regional Economic Development.

VETERANS ADMINISTRATION

64.004 Exchange of Medical Information (EMI).
64.005 Grants to States for Construction of State Nursing Home Care Facilities.
64.017 Grants to States for Remodeling of State Home Hospital/Domiciliary Facilities.
64.114 Veterans Housing—Guaranteed and Insured Loans (GI Home Loans).

WATER RESOURCES COUNCIL

65.001 Water Resources Planning.

ENVIRONMENTAL PROTECTION AGENCY

66.001 Air Pollution Control Program Grants.
66.005 Air Pollution Survey and Demonstration Grants.
66.015 Construction Grants for Wastewater Treatment Works.
66.017 Water Pollution Control-State and Interstate Program Grants.
66.504 Solid Waste Research Grants.
66.505 Water Pollution Control Demonstrations.
66.600 Environmental Protection-Consolidated Program Grants.

ACTION

72.001 Foster Grandparents.

Other. The following covered programs have not yet been assigned Catalog numbers and descriptions.

P.L. 92-583. Coastal Zone Management Act of 1972. Grants for management, program development, and administration (Sections 305 and 306).

P.L. 92-500. Federal Water Pollution Control Act Amendments of 1972. Comprehensive Programs for Water Pollution Control (Sec. 102); Grants for areawide waste treatment planning, management, and construction (Title II); Water Quality Implementation Plans (Sec. 303).

P.L. 92-424. Economic Opportunity Amendments of 1972. Assistance under programs for New Special Emphasis (Sec. 11). Design and Planning Assistance (Sec. 236), Youth Recreation and Sports (Sec. 227), Consumer Action and Cooperation (Sec. 228), and for Community Economic Development (Title [illegible]).

P.L. 92-419. Rural Development Act of 1972. Assistance for Essential Rural Community Facilities (Sec. 104); Rural Industrialization Assistance (Sec. 118); Watershed Protection and Flood Prevention (Sec. 301 (e), (f), (g)); water storage facilities (Sec. 301).

P.L. 92-318. Education Amendments of 1972. Grants for Programs and Projects Relating to National and Regional Problems (Sec. 102); for Construction of Academic Facilities (Sec. 161); and for Metropolitan Area Projects (Sec. 709).

P.L. 92-541. Veterans' Administration Medical School Assistance and Health Manpower Training Act of 1972.

[FR Doc.73-24889 Filed 11-27-73;8:45 am]

Title 34—Government Management

CHAPTER II—OFFICE OF FEDERAL MANAGEMENT POLICY, GENERAL SERVICES ADMINISTRATION

SUBCHAPTER D—FINANCIAL MANAGEMENT

[FMC 74-7]

PART 256—UNIFORM ADMINISTRATIVE REQUIREMENTS FOR GRANTS-IN-AID TO STATE AND LOCAL GOVERNMENTS

Administrative Requirements for Grants to State and Local Governments

This document converts Office of Management and Budget Circular No. A-102 into a General Services Administration Federal Management Circular (FMC 74-7) in accordance with Executive Order 11717 and Office of Management and Budget Bulletin 74-4 which transferred certain Office of Management and Budget responsibilities to the General Services Administration. FMC 74-7, dated September 13, 1974, promulgates standards for establishing consistency and uniformity among Federal agencies in the administration of grants to State and local governments.

Part 256, Uniform Administrative Requirements for Grants-in-Aid to State and Local Governments, is added to read as set forth below.

Sec.
256.1 Purpose.
256.2 Supersession.
256.3 Background.
256.4 Applicability and scope.
256.5 Definitions.
256.6 Appendixes.
256.7 Requests for exceptions.
256.8 Responsibilities.
256.9 Inquiries.

AUTHORITY: Executive Order 11717 (38 FR 12318, May 11, 1973).

NOTE: The forms illustrated in appendixes K and M are filed as part of the original document.

Effective date. This regulation is effective September 13, 1974.

Dated: September 13, 1974.

DWIGHT A. INK,
Acting Administrator of General Services.

§ 256.1 Purpose.

This part promulgates standards for establishing consistency and uniformity among Federal agencies in the administration of grants to State and local governments. Also included in the part are standards to ensure the consistent implementation of sections 202, 203, and 204 of the Intergovernmental Cooperation Act of 1968 (Pub. L. 90-577) (82 Stat. 1101).

§ 256.2 Supersession.

The President by Executive Order 11717 transferred the functions covered

by this part from the Office of Management and Budget to the General Services Administration. This part is therefore issued as a replacement for Office of Management and Budget Circular No. A-102. No substantive changes have been made.

§ 256.3 Background.

On March 27, 1969, the President ordered a 3-year effort to simplify, standardize, decentralize, and otherwise modernize the Federal grant machinery. The standards included in the attachments to this part replace the multitude of varying and oftentimes conflicting requirements in the same subject matter which have been burdensome to State and local governments. Inherent in the standardization process is the concept of placing greater reliance on State and local governments. In addition, the Intergovernmental Cooperation Act of 1968 was passed, in part, for the purpose of: (a) Achieving the fullest cooperation and coordination of activities among levels of Government, (b) improving the administration of grants-in-aid to the States, and (c) establishing coordinated intergovernmental policy and administration of federal assistance programs. This act provides the following basic policies pertaining to administrative requirements to be imposed upon the States as a condition to receiving Federal grants:

DEPOSIT OF GRANTS-IN-AID

SEC. 202. No grant-in-aid to a State shall be required by Federal law or administrative regulation to be deposited in a separate bank account apart from other funds administered by the State. All Federal grant-in-aid funds made available to the States shall be properly accounted for as Federal funds in the accounts of the State. In each case the State agency concerned shall render regular authenticated reports to the appropriate Federal agency covering the status and the application of the funds, the liabilities and obligations on hand, and such other facts as may be required by said Federal agency. The head of the Federal agency and the Comptroller General of the United States or any of their duly authorized representatives shall have access for the purpose of audit and examination to any books, documents, papers, and records that are pertinent to the grant-in-aid received by the States.

SCHEDULING OF FEDERAL TRANSFERS TO THE STATES

SEC. 203. Heads of Federal departments and agencies responsible for administering grant-in-aid programs shall schedule the transfer of grant-in-aid funds consistent with program purposes and applicable Treasury regulations, so as to minimize the time elapsing between the transfer of such funds from the United States Treasury and the disbursement thereof by a State, whether such disbursement occurs prior to or subsequent to such transfer of funds, or subsequent to such transfer of funds [sic]. States shall not be held accountable for interest earned on grant-in-aid funds, pending their disbursement for program purposes.

ELIGIBLE STATE AGENCY

SEC. 204. Notwithstanding any other Federal law which provides that a single State agency or multimember board or commission must be established or designated to administer or supervise the administration of any grant-in-aid program, the head of any Federal department or agency administering such program may, upon request of the Governor or other appropriate executive or legislative authority of the State responsible for determining or revising the organizational structure of State government, waive the single State agency or multimember board or commission provision upon adequate showing that such provision prevents the establishment of the most effective and efficient organizational arrangements within the State government and approve other State administrative structure or arrangements: *Provided*, That the head of the Federal department or agency determines that the objectives of the Federal statute authorizing the grant-in-aid program will not be endangered by the use of such other State structure or arrangements.

Some of the above provisions require implementing instructions. These provisions are provided in the appendixes to this part which deal with the specific provisions.

§ 256.4 Applicability and scope.

The standards promulgated by this part apply to all Federal agencies responsible for administering programs that involve grants to State and local governments. However, agencies are encouraged to apply the standards to loan and loan guarantee programs to the extent practicable. If the enabling legislation for a specific grant program prescribes policies or requirements that differ from the standards provided herein, the provisions of the enabling legislation shall govern.

§ 256.5 Definitions.

For the purposes of this part:

(a) The term "grant" or "grant-in-aid" means money or property provided in lieu of money paid or furnished by the Federal Government to a State or local government under programs that provide financial assistance through grant or contractual arrangements. The term does not include technical assistance programs or other assistance in the form of revenue sharing, loans, loan guarantees, or insurance.

(b) The term "State" means any of the several States of the United States, the District of Columbia, the Commonwealth of Puerto Rico, any territory or possession of the United States, or any agency or instrumentality of a State exclusive of State institutions of higher education and hospitals.

(c) The term "local government" means a local unit of government including specifically a county, municipality, city, town, township, local public authority, special district, intrastate district, council of governments, sponsor group representative organization, and other regional or interstate government entity, or any agency or instrumentality of a local government exclusive of institutions of higher education, hospitals, and school districts.

§ 256.6 Appendixes.

The standards promulgated by this part are set forth in the appendixes, which are:

Appendix A—Cash depositories.
Appendix B—Bonding and insurance.
Appendix C—Retention and custodial requirements for records.
Appendix D—Waiver of "single" State agency requirements.
Appendix E—Program income.
Appendix F—Matching share.
Appendix G—Standards for grantee financial management systems.
Appendix H—Financial reporting requirements.
Appendix I—Monitoring and reporting program performance.
Appendix J—Grant payment requirements.
Appendix K—Budget revision procedures.
Appendix L—Grant closeout procedures.
Appendix M—Standard forms for applying for Federal assistance.
Appendix N—Property management standards.
Appendix O—Procurement standards.

§ 256.7 Requests for exceptions.

The General Services Administration may grant exceptions from the requirements of this part when exceptions are permissible under existing laws. However, in the interest of keeping maximum uniformity, deviations from the requirements of this part will be permitted only in exceptional cases.

§ 256.8 Responsibilities.

The head of each Federal agency responsible for administering programs that involve grants to State and local governments will designate an official to serve as the agency representative on matters relating to the implementation of this part. The name and title of that representative will be furnished to the Office of Federal Management Policy, GSA, not later than 30 days after receipt of this part. If the name and title were previously transmitted to the Office of Management and Budget in connection with its OMB Circular No. A-102, notification to the Office of Federal Management Policy, GSA, is required only when there is a change in the designated representative.

§ 256.9 Inquiries.

Further information concerning this part may be obtained by contacting:

General Services Administration (AMP)
Washington, DC 20405
Telephone: IDS 183-33816, FTS 202-343-3816

APPENDIX A

CASH DEPOSITORIES

1. Except for situations described in 2, 3 and 4, below, no grant program shall:

a. Require physical segregation of cash depositories for Federal grant funds which are provided to a State or local government.

b. Establish any eligibility requirements for cash depositories, in which Federal grant funds are deposited by State or local governments.

2. A separate bank account may be used when payments under letter of credit are made on a "checks-paid" basis in accordance with agreements entered into by a grantee.

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the Federal Government, and the banking institutions involved.

3. Any moneys advanced to the State or local governments which are determined to be "public moneys" (owned by the Federal Government) must be deposited in a bank with FDIC insurance coverage and the balances exceeding the FDIC coverage must be collaterally secure, as provided for in 12 U.S.C. 265.

4. Consistent with the national goal of expanding the opportunities for minority business enterprises, State and local governments shall be encouraged to use minority banks.

APPENDIX B

BONDING AND INSURANCE

1. Except for situations described in 2 and 3, below, Federal grantor agencies shall not impose bonding and insurance requirements, including fidelity bonds, over and above those normally required by the State or local units of government.

2. A State or local unit of government receiving a grant from the Federal Government which requires contracting for construction or facility improvement shall follow its own requirements relating to bid guarantees, performance bonds, and payment bonds except for contracts exceeding $100,000. For contracts exceeding $100,000, the minimum requirements shall be as follows:

a. *A bid guarantee from each bidder equivalent to five percent of the bid price.* The "bid guarantee" shall consist of a firm commitment such as a bid bond, certified check, or other negotiable instrument accompanying a bid as assurance that the bidder will, upon acceptance of his bid, execute such contractual documents as may be required within the time specified.

b. *A performance bond on the part of the contractor for 100 percent of the contract price.* A "performance bond" is one executed in connection with a contract to secure fulfillment of all the contractor's obligations under such contract.

c. *A payment bond on the part of the contractor for 100 percent of the contract price.* A "payment bond" is one executed in connection with a contract to assure payment as required by law of all persons supplying labor and material in the execution of the work provided for in the contract.

3. Where the Federal Government guarantees the payment of money borrowed by the grantee, the Federal grantor agency may, at its discretion, require adequate bonding and insurance if the bonding and insurance requirements of a State or local government are not deemed to be sufficient to protect adequately the interest of the Federal Government.

APPENDIX C

RETENTION AND CUSTODIAL REQUIREMENTS FOR RECORDS

1. Federal grantor agencies shall not impose record retention requirements over and above those established by the State or local governments, receiving Federal grants except that financial records, supporting documents, statistical records, and all other records pertinent to a grant program shall be retained for a period of three years, with the following qualifications:

a. The records shall be retained beyond the three-year period if audit findings have not been resolved.

b. Records for nonexpendable property which was acquired with Federal grant funds shall be retained for three years after its final disposition.

c. When grant records are transferred to or maintained by the Federal grantor agency, the three-year retention requirement is not applicable to the grantee.

2. The retention period starts from the date of the submission of the final expenditure report or, for grants which are renewed annually, from the date of the submission of the annual expenditure report.

3. State and local governments should be authorized, by the Federal grantor agency, if they so desire, to substitute microfilm copies in lieu of original records.

4. The Federal grantor agency shall request transfer of certain records to its custody from State and local governments when it determines that the records possess long-term retention value. However, in order to avoid duplicate record-keeping a Federal grantor agency may make arrangements with State and local governments to retain any records which are continuously needed for joint use.

5. The head of the Federal grantor agency and the Comptroller General of the United States, or any of their duly authorized representatives, shall have access to any books, documents, papers, and records of the State and local governments and their subgrantees which are pertinent to a specific grant program for the purpose of making audit, examination, excerpts, and transcripts.

6. Unless otherwise required by law, no Federal grantor agency will place restrictions on State and local governments which will limit public access to the State and local governments' records except when records must remain confidential. Following are some of the reasons for withholding records:

a. Prevent a clearly unwarranted invasion of personal privacy.

b. Specifically required by statute or Executive order to be kept secret.

c. Commercial or financial information obtained from a person or a firm on a privileged or confidential basis.

APPENDIX D

WAIVER OF "SINGLE" STATE AGENCY REQUIREMENTS

1. Requests to Federal grantor agencies from the Governors, or other duly constituted State authorities, for waiver of the "single" State agency requirements in accordance with section 204 of the Intergovernmental Cooperation Act of 1968 should be given expeditious handling and, whenever possible, an affirmative response should be made to such requests.

2. When it is necessary to refuse a request for waiver of the "single" State agency requirements under section 204, the Federal grantor agency handling such request will so advise the General Services Administration prior to informing the State that the request cannot be granted. Such advice should indicate the reasons for the denial of the request.

3. Future legislative proposals embracing grant-in-aid programs should avoid inclusion of proposals for "single" State agencies in the absence of compelling reasons to do otherwise. In addition, existing "single" State agency requirements in present grant-in-aid programs should be reviewed and legislative proposals should be developed for the removal of these restrictive provisions.

APPENDIX E

PROGRAM INCOME

1. Federal grantor agencies shall apply the standards set forth in this appendix in requiring State and local government grantees to account for program income related to projects financed in whole or in part with Federal grant funds. For the purpose of this appendix, program income means gross income earned by the grant-supported activities.

2. In accordance with section 203 of the Intergovernmental Cooperation Act of 1968 (Public Law 90-577) (82 Stat. 1101), the States and any agency or instrumentality of a State shall not be held accountable for interest earned on grant-in-aid funds, pending their disbursement for program purposes.

3. Units of local government shall be required to return to the Federal Government interest earned on advances of grant-in-aid funds in accordance with a decision of the Comptroller General of the United States (42 Comp. Gen. 289).

4. Proceeds from the sale of real and personal property, either provided by the Federal Government or purchased in whole or in part with Federal funds, shall be handled in accordance with appendix N to this part pertaining to property management.

5. Royalties received from copyrights and patents produced under the grant during the grant period shall be retained by the grantee and, in accordance with the grant agreement, be either added to the funds already committed to the program or deducted from total allowable project costs for the purpose of determining the net costs on which the Federal share of costs will be based. After termination or completion of the grant, the Federal share of royalties in excess of $300 received annually shall be returned to the Federal grantor agency in the absence of other specific agreements between the grantor agency and the grantee. The Federal share of royalties shall be computed on the same ratio basis as the Federal share of the total project cost.

6. All other program income earned during the grant period shall be retained by the grantee and, in accordance with the grant agreement, shall be:

a. Added to funds committed to the project by the grantor and grantee and be used to further eligible program objectives, or

b. Deducted from the total project costs for the purpose of determining the net costs on which the Federal share of costs will be based.

7. Federal grantor agencies shall require the grantees to record the receipt and expenditure of revenues (such as taxes, special assessments, levies, fines, etc.) as a part of grant project transactions when such revenues are specifically earmarked for a grant project in accordance with grant agreements.

APPENDIX F

MATCHING SHARE

1. This appendix sets forth criteria and procedures for the allowability and evaluation of cash and in-kind contributions made by State and local governments in satisfying matching share requirements of Federal grants.

2. The following definitions apply for the purpose of this appendix:

a. *Project costs.* Project costs are all necessary charges made by a grantee in accomplishing the objectives of a grant during the grant period. For matching share purposes, project costs are limited to the allowable types of costs as set forth in the provisions of Part 255.

b. *Matching share.* In general, matching share represents that portion of project costs not borne by the Federal Government. Usually, a minimum percentage for matching share is prescribed by program legislation, and matching share requirements are included in the grant agreements.

c. *Cash contributions.* Cash contributions represent the grantee's cash outlay, including the outlay of money contributed to the grantee by other public agencies and institutions, and private organizations and individuals. When authorized by Federal legislation, Federal funds received from other grants may be considered as grantee's cash contributions.

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d. *In-kind contributions.* In-kind contributions represent the value of noncash contributions provided by (1) the grantee, (2) other public agencies and institutions, and (3) private organizations and individuals. In-kind contributions may consist of charges for real property and equipment, and value of goods and services directly benefiting and specifically identifiable to the grant program. When authorized by Federal legislation, property purchased with Federal funds may be considered as grantee's in-kind contributions.

3. General guidelines for computing matching share are as follows:

a. Matching share may consist of:

(1) Charges incurred by the grantee as project costs. Not all charges require cash outlays during the grant period by the grantee; examples are depreciation and use charges for buildings and equipment.

(2) Project costs financed with cash contributed or donated to the grantee by other public agencies and institutions, and private organizations and individuals.

(3) Project costs represented by services and real or personal property, or use thereof, donated by other public agencies and institutions, and private organizations and individuals.

b. All in-kind contributions shall be accepted as part of the grantee's matching share when such contributions meet the following criteria:

(1) Are identifiable from the grantee's records;

(2) Are not included as contributions for any other federally-assisted program;

(3) Are necessary and reasonable for proper and efficient accomplishment of project objectives; and

(4) Conform to other provisions of this appendix.

4. Specific procedures for the grantees in placing the value on in-kind contributions from private organizations and individuals are set forth below:

a. *Valuation of volunteer services.* Volunteer services may be furnished by professional and technical personnel, consultants, and other skilled and unskilled labor. Each hour of volunteered service may be counted as matching share if the service is an integral and necessary part of an approved program.

(1) *Rates for volunteer service.* Rates for volunteers should be consistent with those regular rates paid for similar work in other activities of the State or local government. In cases where the kinds of skills required for the federally-assisted activities are not found in the other activities of the grantee, rates used should be consistent with those paid for similar work in the labor market in which the grantee competes for the kind of services involved.

(2) *Volunteers employed by other organizations.* When an employer other than the grantee furnishes the services of an employee, these services shall be valued at the employee's regular rate of pay (exclusive of fringe benefits and overhead cost) provided these services are in the same skill for which the employee is normally paid.

b. *Valuation of materials.* Contributed materials include office supplies, maintenance supplies, or workshop and classroom supplies. Prices assessed to donated materials included in the matching share should be reasonable and should not exceed the cost of the materials to the donor or current market prices, whichever is less, at the time they are charged to the project.

c. *Valuation of donated equipment, buildings, and land, or use of space.*

(1) The method used for charging matching share for donated equipment, buildings, and land may differ depending upon the purpose of the grant as follows:

(a) If the purpose of the grant is to furnish equipment, buildings, or land to the grantee or otherwise provide a facility, the total value of the donated property may be claimed as a matching share.

(b) If the purpose of the grant is to support activities that require the use of equipment, buildings, or land on a temporary or part-time basis, depreciation or use charges for equipment and buildings may be made; and fair rental charges for land may be made provided that the grantor agency has approved the charges.

(2) The value of donated property will be determined as follows:

(a) *Equipment and buildings.* The value of donated equipment or buildings should be based on the donor's cost less depreciation or the current market prices of similar property, whichever is less.

(b) *Land or use of space.* The value of donated land or its usage charge should be established by an independent appraiser (i.e., private realty firm or GSA representatives) and certified by the responsible official of the grantee.

d. *Valuation of other charges.* Other necessary charges incurred specifically for and in direct benefit to the grant program in behalf of the grantee may be accepted as matching share provided that they are adequately supported and permissible under the law. Such charges must be reasonable and properly justifiable.

5. The following requirements pertain to the grantee's supporting records for in-kind contribution from private organizations and individuals:

a. The number of hours of volunteer services must be supported by the same methods used by the grantee for its employees.

b. The basis for determining the charges for personal services, material, equipment, buildings, and land must be documented.

APPENDIX G

STANDARDS FOR GRANTEE FINANCIAL MANAGEMENT SYSTEMS

1. This appendix prescribes standards for financial management systems of grant-supported activities of State and local governments. Federal grantor agencies shall not impose additional standards on grantees unless specifically provided for in other appendixes to this part. However, grantor agencies are encouraged to make suggestions and assist the grantees in establishing or improving financial management systems when such assistance is needed or requested.

2. Grantee financial management systems shall provide for:

a. Accurate, current, and complete disclosure of the financial results of each grant program in accordance with Federal reporting requirements. When a Federal grantor agency requires reporting on an accrual basis and the grantee's accounting records are not kept on that basis, the grantee should develop such information through an analysis of the documentation on hand or on the basis of best estimates.

b. Records which identify adequately the source and application of funds for grant-supported activities. These records shall contain information pertaining to grant awards and authorizations, obligations, unobligated balances, assets, liabilities, outlays, and income.

c. Effective control over and accountability for all funds, property, and other assets. Grantees shall adequately safeguard all such assets and shall assure that they are used solely for authorized purposes.

d. Comparison of actual with budgeted amounts for each grant. Also, relation of financial information with performance or productivity data, including the production of unit cost information whenever appropriate and required by the grantor agency.

e. Procedures to minimize the time elapsing between the transfer of funds from the U.S. Treasury and the disbursement by the grantee, whenever funds are advanced by the Federal Government. When advances are made by a letter-of-credit method, the grantee shall make drawdowns from the U.S. Treasury through his commercial bank as close as possible to the time of making the disbursements.

f. Procedures for determining the allowability and allocability of costs in accordance with the provisions of Part 255.

g. Accounting records which are supported by source documentation.

h. Audits to be made by the grantee or at his direction to determine, at a minimum, the fiscal integrity of financial transactions and reports, and the compliance with laws, regulations, and administrative requirements. The grantee will schedule such audits with reasonable frequency, usually annually, but not less frequently than once every two years, considering the nature, size, and complexity of the activity.

i. A systematic method to assure timely and appropriate resolution of audit findings and recommendations.

3. Grantees shall require subgrantees (recipients of grants which are passed through by the grantee) to adopt all of the standards in paragraph 2 above.

APPENDIX H

FINANCIAL REPORTING REQUIREMENTS

1. This appendix prescribes requirements for grantees to report financial information to grantor agencies and to request advances and reimbursement when a letter-of-credit method is not used, and promulgates standard forms incident thereto.

2. The following definitions apply for the purposes of this appendix:

a. *Accrued expenditures.* Accrued expenditures are the charges incurred by the grantee during a given period requiring the provision of funds for: (1) Goods and other tangible property received; (2) services performed by employees, contractors, subgrantees, and other payees; and (3) amounts becoming owed under programs for which no current services or performance are required.

b. *Accrued income.* Accrued income is the earnings during a given period which is a source of funds resulting from (1) services performed by the grantee, (2) goods and other tangible property delivered to purchasers, and (3) amounts becoming owed to the grantee for which no current services or performance are required by the grantee.

c. *Disbursements.* Disbursements are payments in cash or by check.

d. *Federal funds authorized.* Funds authorized represent the total amount of the Federal funds authorized for obligations and establish the ceilings for obligation of Federal funds. This amount may include any authorized carryover of unobligated funds from prior fiscal years.

e. *In-kind contributions.* In-kind contributions represent the value of noncash contributions provided by (1) the grantee, (2) other public agencies and institutions, and (3) private organizations and individuals. In-kind contributions may consist of charges for real property and equipment, and value of goods and services directly benefiting and specifically identifiable to the grant program. When authorized by Federal legislation, property purchased with Federal funds may be considered as grantee's in-kind contributions.

f. *Obligations.* Obligations are the amounts of orders placed, contracts and grants

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awarded, services received, and similar transactions during a given period, which will require payment during the same or a future period.

g. *Outlays*. Outlays represent charges made to the grant project or program. Outlays can be reported on a cash or accrued expenditure basis.

h. *Program income*. Program income represents earnings by the grantee realized from the grant-supported activities. Such earnings include interest income and may include, but will not be limited to, income from service fees, sale of commodities, usage or rental fees, sale of assets purchased with grant funds, and royalties on patents and copyrights. Program income can be reported on a cash or accrued income basis.

i. *Unobligated balance*. The unobligated balance is the portion of the funds authorized by the Federal agency which has not been obligated by the grantee and is determined by deducting the cumulative obligations from the funds authorized.

j. *Unpaid obligations*. Unpaid obligations represent the amount of obligations incurred by the grantee which have not been paid.

3. Only the following forms will be authorized for obtaining financial information from State and local governments for grants-in-aid programs.

a. *Financial Status Report (Exhibit 1)*.

(1) Each Federal grantor agency shall require grantees to use the standard Financial Status Report to report the status of funds for all nonconstruction grant programs. The grantor agencies may, however, have the option of not requiring the Financial Status Report when the Request for Advance or Reimbursement (paragraph 4a) is determined to provide adequate information to meet their needs, except that a final Financial Status Report shall be required at the completion of the grant when the Request for Advance or Reimbursement form is used only for advances.

(2) The grantor agency shall prescribe whether the report shall be on a cash or accrual basis. If the grantor agency requires accrual information and the grantee's accounting records are not normally kept on the accrual basis, the grantee should develop such information through an analysis of the documentation on hand or on the basis of best estimates.

(3) The grantor agency shall determine the frequency of the Financial Status Report for each grant program considering the size and complexity of the particular program. However, the report shall not be required more frequently than quarterly or less frequently than annually. Also, a final report shall be required at the completion of the grant.

(4) The original and two copies of the Financial Status Report shall be submitted 30 days after the end of each specified reporting period. In addition, final reports shall be submitted 90 days after the end of the grant period or the completion of the project or program. Extensions to reporting due dates may be granted when requested by the grantee.

b. *Report of Federal Cash Transactions (Exhibit 2)*.

(1) When funds are advanced to grantees through letters of credit or with Treasury checks, the Federal grantor agencies shall require each grantee to submit a Report of Federal Cash Transactions. The Federal grantor agency shall use this report to monitor cash advanced to grantees and to obtain disbursement or outlay information for each grant or project from the grantees.

(2) Grantor agencies may require forecasts of Federal cash requirements in the Remarks section of the report.

(3) When practical and deemed necessary, the grantor agencies may require grantees to report in the Remarks section the amount of cash in excess of three days' requirements in the hands of subgrantees or other secondary recipients and to provide short narrative explanations of actions taken by the grantees to reduce the excess balances.

(4) Grantor agencies may accept the identical information from the grantees in a machine-usable format in lieu of the Report of Federal Cash Transactions.

(5) Grantees shall be required to submit the original and two copies of the Report of Federal Cash Transactions no later than 15 working days following the end of each quarter. For those grantees receiving annual grants totalling one million dollars or more, the Federal grantor agencies may require a monthly report.

(6) Grantor agencies may waive the requirement for submission of the Report of Federal Cash Transactions when monthly advances do not exceed $10,000 per grantee provided that such advances are monitored through other forms contained in this Appendix or the grantee's accounting controls are adequate to minimize excessive Federal advances.

4. Except as noted below, only the following forms will be authorized for the grantees in requesting advances and reimbursements.

a. *Request for Advance or Reimbursement (Exhibit 3)*.

(1) Each grantor agency shall adopt the Request for Advance or Reimbursement as the standard form for all nonconstruction grant programs when letters of credit or predetermined automatic advance methods are not used. Agencies, however, have the option of using this form for construction programs in lieu of the Outlay Report and Request for Reimburrement for Construction Programs (paragraph 4b).

(2) Grantees shall be authorized to submit requests for advances or reimbursement at least monthly when letters of credit are not used. Grantees shall submit the original and two copies of the Request for Advance or Reimbursement.

b. *Outlay Report and Request for Reimbursement for Construction Programs (Exhibit 4)*.

(1) Each grantor agency shall adopt the Outlay Report and Request for Reimbursement for Construction Programs as the standard format to be used for requesting reimbursement for construction programs. The grantor agencies may, however, have the option of substituting the Request for Advance or Reimbursement (paragraph 4a) in lieu of this form when the grantor agencies determine that the former provides adequate information to meet their needs.

(2) Grantees shall be authorized to submit requests for reimbursements at least monthly when letters of credit are not used. Grantees shall submit the original and two copies of the Outlay Report and Request for Reimbursement for Construction Programs.

5. When the grantor agencies need additional information in using these forms, the following shall be observed:

a. When necessary to comply with legislative requirements, grantor agencies shall issue instructions to require grantees to submit such information under the Remarks section of the reports.

b. When necessary to meet specific program needs, grantor agencies shall submit the proposed reporting requirements to the General Services Administration for approval under the exception provision of this part.

c. The grantor agency, in obtaining information as in paragraphs a and b above, must also comply with report clearance requirements of the Office of Management and Budget Circular No. A-40, as revised.

6. Federal grantor agencies are authorized to reproduce these forms. The forms for reproduction purposes can be obtained from the General Services Administration (AMF), Washington, DC 20405, and are available both in letter size and legal size; the larger size provides more space where large dollar amounts are involved.

APPENDIX I

MONITORING AND REPORTING PROGRAM PERFORMANCE

1. This appendix sets forth the procedures for monitoring and reporting program performance under Federal grants. These procedures are designed to place greater reliance on State and local governments to manage the day-to-day operations of the grant-supported activities.

2. Grantees shall constantly monitor the performance under grant-supported activities to assure that time schedules are being met, projected work units by time periods are being accomplished, and other performance goals are being achieved. This review shall be made for each program, function, or activity of each grant as set forth in the approved grant application.

3. Grantees shall submit a performance report for each grant which briefly presents the following for each program, function, or activity involved:

a. A comparison of actual accomplishments to the goals established for the period. Where the output of grant programs can be readily quantified, such quantitative data should be related to cost data for computation of unit costs.

b. Reasons for slippage in those cases where established goals were not met.

c. Other pertinent information including, when appropriate, analysis and explanation of cost overruns or high unit costs.

4. Grantees shall submit the performance reports to grantor agencies with the Financial Status Reports, in the frequency established by appendix H of this part. The grantor agency shall prescribe the frequency with which the performance reports will be submitted with the Request for Advance or Reimbursement when that form is used in lieu of the Financial Status Report. In no case shall the performance reports be required more frequently than quarterly or less frequently than annually.

5. Between the required performance reporting dates, events may occur which have significant impact upon the project or program. In such cases, the grantee shall inform the grantor agency as soon as the following types of conditions become known:

a. Problems, delays, or adverse conditions which will materially affect the ability to attain program objectives, prevent the meeting of time schedules and goals, or preclude the attainment of project work units by established time periods. This disclosure shall be accompanied by a statement of the action taken, or contemplated, and any Federal assistance needed to resolve the situation.

b. Favorable developments or events which enable meeting time schedules and goals sooner than anticipated or producing more work units than originally projected.

6. If any performance review conducted by the grantee discloses the need for change in the budget estimates in accordance with the criteria established in appendix K to this part, the grantee shall submit a request for budget revision.

7. The grantor agency shall make site visits as frequently as practicable to:

a. Review program accomplishments and management control systems.

b. Provide such technical assistance as may be required.

APPENDIX J

GRANT PAYMENT REQUIREMENTS

1. This appendix establishes required methods of making grant payments to State and local governments that will minimize the time elapsing between the disbursement by a grantor and the transfer of funds from the United States Treasury to the grantee, whether such disbursement occurs prior to or subsequent to the transfer of fund .

2. Grant payments are made to grantees through a letter of credit, and advance by Treasury check, or a reimbursement by Treasury check. The following definitions apply for the purpose of this appendix:

a. *Letter of credit.* A letter of credit is an instrument certified by an authorized official of a grantor agency which authorizes a grantee to draw funds when needed from the Treasury, through a Federal Reserve Bank and the grantee's commercial bank, in accordance with the provisions of Treasury Circular No. 1075.

b. *Advance by Treasury check.* An advance by Treasury check is a payment made by a Treasury check to a grantee upon its request or through the use of predetermined payment schedules before payments are made by the grantee.

c. *Reimbursement by Treasury check.* A reimbursement by Treasury check is a payment made to a grantee with a Treasury check upon request for reimbursement from the grantee.

3. Except for construction grants for which the letter-of-credit method is optional, the letter-of-credit funding method shall be used by grantor agencies where all of the following conditions exist:

a. When there is or will be a continuing relationship between a grantee and a Federal grantor agency for at least a 12-month period and the total amount of advances to be received within that period from the grantor agency is $250,000, or more, as prescribed by Treasury Circular No. 1075.

b. When the grantee has established or demonstrated to the grantor the willingness and ability to establish procedures that will minimize the time elapsing between the transfer of funds and their disbursement by the grantee.

c. When the grantee's financial management system meets the standards for fund control and accountability prescribed in Appendix G to this part, "Standards for Grantee Financial Management Systems."

4. The method of advancing funds by Treasury check shall be used, in accordance with the provisions of Treasury Circular No. 1075, when the grantee meets all of the requirements specified in paragraph 3 above except those in 3.a.

5. The reimbursement by Treasury check method shall be the preferred method when the grantee does not meet the requirements specified in either or both of paragraphs 3.b. and 3.c. This method may also be used when the major portion of the program is accomplished through private market financing or Federal loans, and when the Federal grant assistance constitutes a minor portion of the program.

6. Unless otherwise required by law, grantor agencies shall not withhold payments for proper charges made by State and local governments at any time during the grant period unless (a) a grantee has failed to comply with the program objectives, grant award conditions, or Federal reporting requirements, or (b) the grantee is indebted to the United States and collection of the indebtedness will not impair accomplishment of the objectives of any grant program sponsored by the United States. Under such conditions, the grantor may, upon reasonable notice, inform the grantee that payments will not be made for obligations incurred after a specified date until the conditions are corrected or the indebtedness to the Federal government is liquidated.

7. Appendix H of this part, "Financial Reporting," provides for the procedures and forms for requesting advances or reimbursements.

APPENDIX K

BUDGET REVISION PROCEDURES

1. This appendix promulgates criteria and procedures to be followed by Federal grantor agencies in requiring grantees to report deviations from grant budgets and to request approvals for budget revisions.

2. The grant budget as used in this appendix means the approved financial plan for both the Federal and nonfederal shares to carry out the purpose of the grant. This plan is the financial expression of the project or program as approved during the grant application and award process. It should be related to performance for program evaluation purposes whenever appropriate and required by the grantor agency.

3. For nonconstruction grants, State and local governments shall request prior approvals promptly from grantor agencies for budget revisions whenever:

a. The revision results from changes in the scope or the objective of the grant-supported program.

b. The revision indicates the need for additional Federal funding.

c. The grant budget is over $100,000 and the cumulative amount of transfers among direct cost object class budget categories exceeds or is expected to exceed $10,000, or five percent of the grant budget, whichever is greater. The same criteria apply to the cumulative amount of transfers among programs, functions, and activities when budgeted separately for a grant, except that the grantor agency shall permit no transfer which would cause any Federal appropriation, or part thereof, to be used for purposes other than those intended.

d. The grant budget is $100,000, or less, and the cumulative amount of transfers among direct cost object class budget categories exceeds or is expected to exceed five percent of the grant budget. The same criteria apply to the cumulative amount of transfers among programs, functions, and activities when budgeted separately for a grant, except that the grantor agency shall permit no transfer which would cause any Federal appropriation, or part thereof, to be used for purposes other than those intended.

e. The revisions involve the transfer of amounts budgeted for indirect costs to absorb increases in direct costs.

f. The revisions pertain to the addition of items requiring approval in accordance with the provisions of Part 255.

4. All other changes to nonconstruction grant budgets, except for the changes described in paragraph 3, do not require approval. These changes include (a) the use of grantee funds in furtherance of program objectives over and above the grantee minimum share included in the approved grant budget and (b) the transfer of amounts budgeted for direct costs to absorb authorized increase in indirect costs.

5. For construction grants, State and local governments shall request prior approvals promptly from grantor agencies for budget revisions whenever:

a. The revision results from changes in the scope or the objective of the grant-supported programs.

b. The revision increases the budgeted amounts of Federal funds needed to complete the project.

6. When a grantor agency awards a grant which provides support for both construction and nonconstruction work, the grantor agency may require the grantee to request prior approval from the grantor agency before making any fund or budget transfers between the two types of work supported.

7. For both construction and nonconstruction grants, grantor agencies shall require State and local governments to notify the grantor agency promptly whenever the amount of Federal authorized funds is expected to exceed the needs of the grantee by more than $5,000 or 5 percent of the Federal grant, whichever is greater. This notification will not be required when applications for additional funding are submitted for continuing grants.

8. When requesting approval for budget revisions, grantees shall use the budget forms which were used in the grant application. However, grantees may request by letter the approvals required by the provisions of Part 255.

9. Within 30 days from the date of receipt of the request for budget revisions, grantor agencies shall review the request and notify the grantee whether or not the budget revisions have been approved. If the revision is still under consideration at the end of 30 days, the grantor shall inform the grantee in writing as to when the grantee may expect the decision.

APPENDIX L

GRANT CLOSEOUT PROCEDURES

1. This appendix prescribes uniform closeout procedures for Federal grants to State and local governments.

2. The following definitions shall apply for the purpose of this appendix:

a. *Grant closeout.* The closeout of a grant is the process by which a Federal grantor agency determines that all applicable administrative actions and all required work of the grant have been completed by the grantee and the grantor.

b. *Date of completion.* The date when all work under a grant is completed or the date in the grant award document, or any supplement or amendment thereto, on which Federal assistance ends.

c. *Termination.* The termination of a grant means the cancellation of Federal assistance, in whole or in part, under a grant at any time prior to the date of completion.

d. *Suspension.* The suspension of a grant is an action by a Federal grantor agency which temporarily suspends Federal assistance under the grant pending corrective action by the grantee or pending a decision to terminate the grant by the grantor agency.

e. *Disallowed Costs.* Disallowed costs are those charges to a grant which the grantor agency or its representative determines to be unallowable. (See Part 255.)

3. All Federal grantor agencies shall establish grant closeout procedures which include the following requirements:

a. Upon request, the Federal grantor agency shall make prompt payments to a grantee for allowable reimbursable costs under the grant being closed out.

b. The grantee shall immediately refund to the grantor agency any unencumbered balance of cash advanced to the grantee.

c. The grantor agency shall obtain from the grantee within 90 days after the date of completion of the grant all financial, performance, and other reports required as a condition of the grant. The agency may grant extensions when requested by the grantee.

d. The grantor agency shall make a settlement for any upward or downward adjustments to the Federal share of costs after these reports are received.

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e. The grantee shall account for any property acquired with grant funds, or received from the Government in accordance with the provisions of appendix N to this part.

f. In the event a final audit has not been performed prior to the closeout of the grant, the grantor agency shall retain the right to recover an appropriate amount after fully considering the recommendations of disallowed costs resulting from the final audit.

4. All Federal grantor agencies shall provide procedures to be followed when a grantee has failed to comply with the grant award stipulations, standards, or conditions. When that occurs, the grantor agency may, on reasonable notice to the grantee, suspend the grant, and withhold further payments, or prohibit the grantee from incurring additional obligations of grant funds, pending corrective action by the grantee or a decision to terminate in accordance with paragraph 5.a. The grantor agency may allow all necessary and proper costs which the grantee could not reasonably avoid during the period of suspension provided that they meet the provisions of Part 255.

5. Subject to statutory provisions referred to in § 256.4, all Federal grantor agencies shall provide for the systematic settlement of terminated grants including the following:

a. *Termination for cause.* The grantor agency may terminate any grant in whole, or in part, at any time before the date of completion, whenever it is determined that the grantee has failed to comply with the conditions of the grant. The grantor agency shall promptly notify the grantee in writing of the determination and the reasons for the termination, together with the effective date. Payments made to grantees or recoveries by the grantor agencies under grants terminated for cause shall be in accord with the legal rights and liabilities of the parties.

b. *Termination for convenience.* The grantor agency or grantee may terminate grants in whole, or in part, when both parties agree that the continuation of the project would not produce beneficial results commensurate with the further expenditure of funds. The two parties shall agree upon the termination conditions, including the effective date and, in the case of partial terminations, the portion to be terminated. The grantee shall not incur new obligations for the terminated portion after the effective date, and shall cancel as many outstanding obligations as possible. The Federal agency shall allow full credit to the grantee for the Federal share of the noncancelable obligations, properly incurred by the grantee prior to termination.

APPENDIX M

STANDARD FORMS FOR APPLYING FOR FEDERAL ASSISTANCE

1. This appendix promulgates standard forms to be used by State and local governments in applying for all Federal grants except those Federal formula grant programs which do not require grantees to apply for Federal funds on a project basis.

2. The standard forms and their purposes are briefly described in the following paragraphs:

a. *Preapplication for Federal Assistance (Exhibit 1).* Preapplication for Federal Assistance is used to: (1) establish communication between the Federal grantor agency and the applicant; (2) determine the applicant's eligibility; (3) determine how well the project can compete with similar applications from others; and (4) eliminate any proposals which have little or no chance for Federal funding before applicants incur significant expenditures for preparing an application. Preapplication forms shall be required for all construction, land acquisition and land development projects or programs for which the need for Federal funding exceeds $100,000. The Federal grantor agency may require the use of the preapplication form for other types of grant programs or for those for which the Federal fund request is for $100,000 or less. In addition, Federal agencies shall establish procedures allowing State and local government applicants to submit, if they so desire, the preapplication form when mandatory requirements for preapplication do not exist.

b. *Notice of Review Action (Exhibit 2).* The purpose of the Notice of Review Action is to inform the applicant of the results of the review of the preapplication forms which were submitted to Federal grantor agencies. The Federal grantor agency shall send a notice to the applicant within 45 days of the receipt of the preapplication form. When the review cannot be made within 45 days, the applicant shall be informed by letter as to when the review will be completed.

c. *Federal Assistance Application for Nonconstruction Programs (Exhibit 3).* The Federal Assistance Application for Nonconstruction Programs form is designed to accommodate several programs and shall be used by the applicant for all actions covered by this appendix except where the major purpose of the grant involves construction, land acquisition, or development or single-purpose and one-time grant applications for less than $10,000 which do not require clearinghouse approval, an environmental impact statement, or the relocation of persons, businesses, or farms.

d. *Federal Assistance Application for Construction Programs (Exhibit 4).* The Federal Assistance Application for Construction Programs form shall be used for all grants where the major purpose of the program involves construction, land acquisition, and land development, except when the Application for Federal Assistance-Short Form (paragraph 2e) is used.

e. *Application for Federal Assistance—Short Form (Exhibit 5).* The Application for Federal Assistance—Short Form shall be used for all grants for single-purpose and one-time grant applications for less than $10,000 not requiring clearinghouse approval, an environmental impact statement, or the relocation of persons, businesses, or farms. Federal grantor agencies may, at their discretion, authorize the use of this form for applications for larger amounts.

3. For all forms described herein, the following shall apply:

a. All requests by grantees for changes, continuations, and supplementals to approved grants shall be submitted on the same form as the original application. For these purposes, only the required pages of the forms should be submitted.

b. Grantor agencies may issue supplementary instructions to the standard forms to:

(1) Specify and describe the programs, functions, or activities which will be used to plan, budget, and evaluate the work under the grant programs.

(2) Provide amplification or specifics to the requirements for program narrative statements. These changes will require approval under the provisions of § 256.7.

(3) Design report forms for additional information to meet legal and program management requirements. These forms shall be submitted for report form clearance in accordance with Office of Management and Budget Circular No. A-40, as revised.

c. Grantees shall submit the original and two copies of the application.

d. Federal grantor agencies are authorized to reproduce these forms. The forms for reproduction purposes can be obtained from the General Services Administration (AMF), Washington, D.C. 20406.

APPENDIX N

PROPERTY MANAGEMENT STANDARDS

1. This appendix prescribes uniform standards governing the utilization and disposition of property furnished by the Federal Government or acquired in whole or in part with Federal funds by State and local governments. Federal grantor agencies shall require State and local governments to observe these standards under grants from the Federal Government and shall not impose additional requirements unless specifically required by Federal law. The grantees shall be authorized to use their own property management standards and procedures as long as the provisions of this appendix are included.

2. The following definitions apply for the purpose of this appendix:

a. *Real property.* Real property means land, land improvements, structures and appurtenances thereto, excluding movable machinery and equipment.

b. *Personal property.* Personal property means property of any kind except real property. It may be tangible—having physical existence, or intangible—having no physical existence, such as patents, inventions and copyrights.

c. *Nonexpendable personal property.* Nonexpendable personal property means tangible personal property having a useful life of more than one year and an acquisition cost of $300 or more per unit. A grantee may use its own definition of nonexpendable personal property provided that such definition would at least include all tangible personal property as defined above.

d. *Expendable personal property.* Expendable personal property refers to all tangible personal property other than nonexpendable property.

e. *Excess property.* Excess property means property under the control of any Federal agency which, as determined by the head thereof, is no longer required for its needs.

3. Each Federal grantor agency shall prescribe requirements for grantees concerning the use of real property funded partly or wholly by the Federal Government. Unless otherwise provided by statute, such requirements, as a minimum, shall contain the following:

a. The grantee shall use the real property for the authorized purpose of the original grant as long as needed.

b. The grantee shall obtain approval by the grantor agency for the use of the real property in other projects when the grantee determines that the property is no longer needed for the original grant purposes. Use in other projects shall be limited to those under other Federal grant programs, or programs that have purposes consistent with those authorized for support by the grantor.

c. When the real property is no longer needed as provided in a. and b., above, the grantee shall return all real property furnished or purchased wholly with Federal grant funds to the control of the Federal grantor agency. In the case of property purchased in part with Federal grant funds, the grantee may be permitted to take title to the Federal interest therein upon compensating the Federal Government for its fair share of the property. The Federal share of the property shall be the amount computed by applying the percentage of the Federal participation in the total cost of the grant program for which the property was acquired to the current fair market value of the property.

4. Standards and procedures governing ownership, use, and disposition of nonexpendable personal property furnished by the Federal Government or acquired with Federal funds are set forth below:

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a. *Nonexpendable personal property acquired with Federal funds.* When nonexpendable personal property is acquired by a grantee wholly or in part with Federal funds, title will not be taken by the Federal Government except as provided in paragraph 4a(4), but shall be vested in the grantee subject to the following restrictions on use and disposition of the property:

(1) The grantee shall retain the property acquired with Federal funds in the grant program as long as there is a need for the property to accomplish the purpose of the grant program whether or not the program continues to be supported by Federal funds. When there is no longer a need for the property to accomplish the purpose of the grant program, the grantee shall use the property in connection with other Federal grants it has received in the following order of priority:

(a) Other grants of the same Federal grantor agency needing the property.

(b) Grants of other Federal agencies needing the property.

(2) When the grantee no longer has need for the property in any of its Federal grant programs, the property may be used for its own official activities in accordance with the following standards:

(a) *Nonexpendable property with an acquisition cost of less than $1000 and used four years or more.* The grantee may use the property for its own official activities without reimbursement to the Federal Government or sell the property and retain the proceeds.

(b) *All other nonexpendable property.* The grantee may retain the property for its own use provided that a fair compensation is made to the original grantor agency for the latter's share of the property. The amount of compensation shall be computed by applying the percentage of Federal participation in the grant program to the current fair market value of the property.

(3) If the grantee has no need for the property, disposition of the property shall be made as follows:

(a) *Nonexpendable property with an acquisition cost of $1,000 or less.* Except for that property which meets the criteria of (2) (a) above, the grantee shall sell the property and reimburse the Federal grantor agency an amount which is computed in accordance with (iii) below.

(b) *Nonexpendable property with an acquisition cost of over $1,000.* The grantee shall request disposition instructions from the grantor agency. The Federal agency shall determine whether the property can be used to meet the agency's requirement. If no requirement exists within that agency, the availability of the property shall be reported to the General Services Administration (GSA) by the Federal agency to determine whether a requirement for the property exists in other Federal agencies. The Federal grantor agency shall issue instructions to the grantee within 120 days and the following procedures shall govern:

(i) If the grantee is instructed to ship the property elsewhere, the grantee shall be reimbursed by the benefiting Federal agency with an amount which is computed by applying the percentage of the grantee's participation in the grant program to the current fair market value of the property, plus any shipping or interim storage costs incurred.

(ii) If the grantee is instructed to otherwise dispose of the property, he shall be reimbursed by the Federal grantor agency for such costs incurred in its disposition.

(iii) If disposition instructions are not issued within 120 days after reporting, the grantee shall sell the property and reimburse the Federal grantor agency an amount which is computed by applying the percentage of Federal participation in the grant program to the sales proceeds. Further, the grantee shall be permitted to retain $100 or 10 percent of the proceeds, whichever is greater, for the grantee's selling and handling expenses.

(4) Where the grantor agency determines that property with an acquisition cost of $1,000 or more and financed solely with Federal funds is unique, difficult, or costly to replace, it may reserve title to such property, subject to the following provisions:

(a) The property shall be appropriately identified in the grant agreement or otherwise made known to the grantee.

(b) The grantor agency shall issue disposition instructions within 120 days after the completion of the need for the property under the Federal grant for which it was acquired. If the grantor agency fails to issue disposition instructions within 120 days, the grantee shall apply the standards of 4a (1), 4a(2) (b), and 4a(3) (b).

b. *Federally-owned nonexpendable personal property.* Unless statutory authority to transfer title has been granted to an agency, title to Federally-owned property (property to which the Federal Government retains title including excess property made available by the Federal grantor agencies to grantees) remains vested by law in the Federal Government. Upon termination of the grant or need for the property, such property shall be reported to the grantor agency for further agency utilization or, if appropriate, for reporting to the General Services Administration for other Federal agency utilization. Appropriate disposition instructions will be issued to the grantee after completion of Federal agency review.

5. *The grantees' property management standards for nonexpendable personal property* shall also include the following procedural requirements:

a. Property records shall be maintained accurately and provide for: a description of the property; manufacturer's serial number or other identification number; acquisition date and cost; source of the property; percentage of Federal funds used in the purchase of property; location, use, and condition of the property; and ultimate disposition data including sales price or the method used to determine current fair market value if the grantee reimburses the grantor agency for its share.

b. A physical inventory of property shall be taken and the results reconciled with the property records at least once every two years to verify the existence, current utilization, and continued need for the property.

c. A control system shall be in effect to insure adequate safeguards to prevent loss, damage, or theft to the property. Any loss, damage, or theft of nonexpendable property shall be investigated and fully documented.

d. Adequate maintenance procedures shall be implemented to keep the property in good condition.

e. Proper sales procedures shall be established for unneeded property which would provide for competition to the extent practicable and result in the highest possible return.

6. When the total inventory value of any unused expendable personal property exceeds $200 at the expiration of need for any Federal grant purposes, the grantee may retain the property or sell the property as long as he compensates the Federal Government for its share in the cost. The amount of compensation shall be computed in accordance with 4a(2) (b).

7. *Specific standards for control of intangible property* are provided as follows:

a. If any program produces patentable items, patent rights, processes, or inventions, in the course of work aided by a Federal grant, such fact shall be promptly and fully reported to the grantor agency. Unless there is prior agreement between the grantee and grantor on disposition of such items, the grantor agency shall determine whether protection on such invention or discovery shall be sought and how the rights in the invention or discovery—including rights under any patent issued thereon—shall be allocated and administered in order to protect the public interest consistent with "Government Patent Policy" (President's Memorandum for Heads of Executive Departments and Agencies, August 23, 1971, and Statement of Government Patent Policy as printed in 36 FR 16889).

b. Where the grant results in a book or other copyrightable material, the author or grantee is free to copyright the work, but the Federal grantor agency reserves a royalty-free, nonexclusive and irrevocable license to reproduce, publish, or otherwise use, and to authorize others to use the work for Government purposes.

APPENDIX O

PROCUREMENT STANDARDS

1. This appendix provides standards for use by the State and local governments in establishing procedures for the procurement of supplies, equipment, construction, and other services with Federal grant funds. These standards are furnished to insure that such materials and services are obtained in an effective manner and in compliance with the provisions of applicable Federal law and Executive orders. No additional requirements shall be imposed by the Federal agencies upon the grantees unless specifically required by Federal law or Executive orders.

2. The standards contained in this appendix do not relieve the grantee of the contractual responsibilities arising under its contracts. The grantee is the responsible authority, without recourse to the grantor agency regarding the settlement and satisfaction of all contractual and administrative issues arising out of procurements entered into, in support of a grant. This includes but is not limited to: disputes, claims, protests of award, source evaluation or other matters of a contractual nature. Matters concerning violation of law are to be referred to such local, State, or Federal authority as may have proper jurisdiction.

3. Grantees may use their own procurement regulations which reflect applicable State and local law, rules and regulations provided that procurements made with Federal grant funds adhere to the standards set forth as follows:

a. The grantee shall maintain a code or standards of conduct which shall govern the performance of its officers, employees, or agents in contracting with and expending Federal grant funds. Grantee's officers, employees or agents, shall neither solicit nor accept gratuities, favors, or anything of monetary value from contractors or potential contractors. To the extent permissible by State or local law, rules or regulations, such standards shall provide for penalties, sanctions, or other disciplinary actions to be applied for violations of such standards by either the grantee officers, employees, or agents, or by contractors or their agents.

b. All procurement transactions regardless of whether negotiated or advertised and without regard to dollar value shall be conducted in a manner so as to provide maximum open and free competition. The grantee should be alert to organizational conflicts of interest or noncompetitive practices among

administrators which may restrict or eliminate competition or otherwise restrain trade.

c. The grantee shall establish procurement procedures which provide for, as a minimum, the following procedural requirements:

(1) Proposed procurement actions shall be reviewed by grantee officials to avoid purchasing unnecessary or duplicative items. Where appropriate, an analysis shall be made of lease and purchase alternatives to determine which would be the most economical, practical procurement.

(2) Invitations for bids or requests for proposals shall be based upon a clear and accurate description of the technical requirements for the material, product, or service to be procured. Such description shall not, in competitive procurements, contain features which unduly restrict competition. "Brand name or equal" description may be used as a means to define the performance or other salient requirements of a procurement, and when so used the specific features of the named brand which must be met by offerors should be clearly specified.

(3) Positive efforts shall be made by the grantee to utilize small business and minority-owned business sources of supplies and services. Such efforts should allow these sources the maximum feasible opportunity to compete for contracts to be performed utilizing Federal grant funds.

(4) The type of procuring instruments used (i.e., fixed price contracts, cost reimbursable contracts, purchase orders, incentive contracts, etc.), shall be appropriate for the particular procurement and for promoting the best interest of the grant program involved. The "cost-plus-a-percentage-of-cost" method of contracting shall not be used.

(5) Formal advertising, with adequate purchase description, sealed bids, and public openings shall be the required method of procurement unless negotiation pursuant to paragraph (6) below is necessary to accomplish sound procurement. However, procurements of $2,500 or less need not be so advertised unless otherwise required by State or local law or regulations. Where such advertised bids are obtained the awards shall be made to the responsible bidder whose bid is responsive to the invitation and is most advantageous to the grantee, price and other factors considered. (Factors such as discounts, transportation costs, taxes may be considered in determining the lowest bid.) Invitations for bids shall clearly set forth all requirements which the bidder must fulfill in order for his bid to be evaluated by the grantee. Any or all bids may be rejected when it is in the grantee's interest to do so, and such rejections are in accordance with applicable State and local law, rules, and regulations.

(6) Procurements may be negotiated if it is impracticable and unfeasible to use formal advertising. Generally, procurements may be negotiated by the grantee if:

(a) The public exigency will not permit the delay incident to advertising;

(b) The material or service to be procured is available from only one person or firm; (All contemplated sole source procurements where the aggregate expenditure is expected to exceed $2,500 shall be referred to the grantor agency for prior approval.)

(c) The aggregate amount involved does not exceed $2,500;

(d) The contract is for personal or professional services, or for any service to be rendered by a university, college, or other educational institution;

(e) The material or services are to be procured and used outside the limits of the United States and its possessions;

(f) No acceptable bids have been received after formal advertising;

(g) The purchase are for highly perishable materials or medical supplies, for material or services where the prices are established by law, for technical items or equipment requiring standardization and interchangeability of parts with existing equipment, for experimental, developmental or research work, for supplies purchased for authorized resale, and for technical or specialized supplies requiring substantial initial investment for manufacture;

(h) Otherwise authorized by law, rules, or regulations. Notwithstanding the existence of circumstances justifying negotiation, competition shall be obtained to the maximum extent practicable.

(7) Contracts shall be made only with responsible contractors who possess the potential ability to perform successfully under the terms and conditions of a proposed procurement. Consideration shall be given to such matters as contractor integrity, record of past performance, financial and technical resources, or accessibility to other necessary resources.

(8) Procurement records or files for purchases in amounts in excess of $2,500 shall provide at least the following pertinent information: justification for the use of negotiation in lieu of advertising, contractor selection, and the basis for the cost or price negotiated.

(9) A system for contract administration shall be maintained to assure contractor conformance with terms, conditions, and specifications of the contract or order, and to assure adequate and timely followup of all purchases.

4. The grantee shall include, in addition to provisions to define a sound and complete agreement, the following provisions in all contracts and subgrants:

a. Contracts shall contain such contractual provisions or conditions which will allow for administrative, contractual, or legal remedies in instances where contractors violate or breach contracts terms, and provide for such sanctions and penalties as may be appropriate.

b. All contracts, amounts for which are in excess of $2,500, shall contain suitable provisions for termination by the grantee including the manner by which it will be effected and the basis for settlement. In addition, such contracts shall describe conditions under which the contract may be terminated for default as well as conditions where the contract may be terminated because of circumstances beyond the control of the contractor.

c. In all contracts for construction or facility improvement awarded in excess of $100,000, grantees shall observe the bonding requirements provided in appendix B to this part.

d. All construction contracts awarded by recipients and their contractors or subgrantees having a value of more than $10,000, shall contain a provision requiring compliance with Executive Order No. 11246, entitled "Equal Employment Opportunity," as amended by Executive Order No. 11375, and as supplemented in Department of Labor Regulations (41 CFR, Part 60).

e. All contracts and subcontracts for construction or repair shall include a provision for compliance with the Copeland "Anti-Kick Back" Act (18 U.S.C. 874) as supplemented in Department of Labor regulations (29 CFR, Part 3). This act provides that each contractor or subgrantee shall be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he is otherwise entitled. The grantee shall report all suspected or reported violations to the grantor agency.

f. When required by the Federal grant program legislation, all construction contracts awarded by grantees and subgrantees in excess of $2,000 shall include a provision for compliance with the Davis-Bacon Act (40 U.S.C. 276a to a-7) and as supplemented by Department of Labor regulations (29 CFR, Part 5). Under this act contractors shall be required to pay wages to laborers and mechanics at a rate not less than the minimum wages specified in a wage determination made by the Secretary of Labor. In addition, contractors shall be required to pay wages not less often than once a week. The grantee shall place a copy of the current prevailing wage determination issued by the Department of Labor in each solicitation and the award of a contract shall be conditioned upon the acceptance of the wage determination. The grantee shall report all suspected or reported violations to the grantor agency.

g. Where applicable, all contracts awarded by grantees and subgrantees in excess of $2,000 for construction contracts and in excess of $2,500 for other contracts which involve the employment of mechanics or laborers shall include a provision for compliance with sections 103 and 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 327-330) as supplemented by Department of Labor regulations (29 CFR, Part 5). Under section 103 of the act, each contractor shall be required to compute the wages of every mechanic and laborer on the basis of a standard work day of 8 hours and a standard work week of 40 hours. Work in excess of the standard workday or workweek is permissible provided that the worker is compensated at a rate of not less than 1½ times the basic rate of pay for all hours worked in excess of 8 hours in any calendar day or 40 hours in the work week. Section 107 of the act is applicable to construction work and provides that no laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health and safety as determined under construction, safety, and health standards promulgated by the Secretary of Labor. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

h. Contracts or agreements, the principal purpose of which is to create, develop, or improve products, processes or methods; or for exploration into fields which directly concern public health, safety, or welfare; or contracts in the field of science or technology in which there has been little significant experience outside of work funded by Federal assistance, shall contain a notice to the effect that matters regarding rights to inventions, and materials generated under the contract or agreement are subject to the regulations issued by the Federal grantor agency. The contractor shall be advised as to the source of additional information regarding these matters.

i. All negotiated contracts (except those of $2,500 or less) awarded by grantees shall include a provision to the effect that the grantee, the Federal grantor agency, the Comptroller General of the United States, or any of their duly authorized representatives, shall have access to any books, documents, papers, and records of the contractor which are directly pertinent to a specific grant program for the purpose of making audit, examination, excerpts, and transcriptions.

j. Contracts and subgrants of amounts in excess of $100,000 shall contain a provision which requires the recipient to agree to comply with all applicable standards, orders, or regulations issued pursuant to the Clean

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Air Act of 1970 (42 U.S.C. 1857 et seq.) and the Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.) as amended. Violations shall be reported to the grantor agency and the Regional Office of the Environmental Protection Agency.

[FR Doc.74-22580 Filed 10-8-74;8:45 am]

II. 4

THURSDAY, JULY 5, 1973
WASHINGTON, D.C.

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PART II

federal register

Nondiscrimination in Federally Assisted Programs

No. 128—Pt. II—1

NONDISCRIMINATION IN FEDERALLY ASSISTED PROGRAMS

Title VI of the Civil Rights Act of 1964, 42 U.S.C. 2000d to d-4, prohibits discrimination on the ground of race, color or national origin in programs and activities receiving Federal financial assistance. At present, 21 Federal agencies have regulations implementing Title VI.[1]

Each of these agencies has adopted amendments to its Title VI regulation.[2] In addition, four agencies; the Civil Service Commission, Environmental Protection Agency, Federal Home Loan Bank Board, and National Foundation on the Arts and the Humanities, have adopted initial Title VI regulations. The regulation amendments of the 21 agencies and the four initial regulations have been approved by the President (FR Doc. 72-19497) [3], in accord with section 602 of Title VI, 42 U.S.C. 2000d-1.

The background of the amendments and the new regulations is as follows: On December 9, 1971, uniform amendments to the Title VI regulations of 20 agencies and the initial regulation of the National Foundation on the Arts and the Humanities were published in the FEDERAL REGISTER as proposed rule making. See 36 FR 23447. Comments on the proposals were submitted to the Department of Justice which has responsibility, under Executive Order 11247, for coordinating implementation of Title VI by Federal agencies. On the basis of the comments, the Department of Justice recommended that agencies with major Title VI responsibilities adopt certain additional amendments.

As a result of the above steps, the original uniform amendments are, with limited exceptions, included in each set of amendments to existing regulations and in each of the four initial regulations.[4] The most important of these provisions involve: prohibiting discrimination in the selection of sites for facilities of Federally assisted programs, requiring affirmative action to overcome the effects of past discrimination, and providing that discriminatory employment practices are prohibited by Title VI to the extent that such practices tend to cause discrimination in the services provided to beneficiaries.

In addition, the amendments of 12 agencies with major Title VI responsibilities[5] include provisions which the Department of Justice had recommended on the basis of public comments. These additional provisions relate to: prohibiting discrimination in the selection of members of planning and advisory bodies, referring to the obligation of recipients of Federal funds to maintain racial and ethnic data with regard to program beneficiaries, and extending (from 90) to 180 days the time for filing complaints.

The regulation amendments and the four initial regulations will take effect on July 5, 1972.

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[1] Title VI regulations are presently in effect for the Departments of Agriculture, Commerce, Defense, HEW, HUD, Interior, Labor, Justice, State and Transportation and the following agencies: AID, AEC, CAB, GSA, NASA, NSF, OEO, OEP, SBA, TVA and VA.

[2] The amendments of four agencies, Commerce, HUD, OEO and OEP, are in the form of complete reissuance of their respective regulations.

[3] Filed with the Office of the Federal Register.

[4] Subsequent to December 9, 1971, the regulations of the Civil Service Commission, Environmental Protection Agency and Federal Home Loan Bank Board and amendments to the Department of Transportation regulation were published in the FEDERAL REGISTER as proposed rule making.

Title 40—Protection of Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

SUBCHAPTER A—GENERAL

PART 7—NONDISCRIMINATION IN PROGRAMS RECEIVING FEDERAL ASSISTANCE FROM THE ENVIRONMENTAL PROTECTION AGENCY—EFFECTUATION OF TITLE VI OF THE CIVIL RIGHTS ACT OF 1964

On June 2, 1972, the Environmental Protection Agency published (37 FR 11073) proposed regulations to implement title VI of the Civil Rights Act of 1964, 42 U.S.C. 2000d et seq. The regulations now promulgated as final regulations, after approval by the President pursuant to statutory requirement, reflect changes which have been made to the proposed regulations as a result of public comment which was received.

A provision has been added to § 7.5(c) to permit the Agency to promise that a complainant's name will be kept confidential, within certain limits. In addition, § 7.7(b) has been modified so that compliance reports may be required of applicants for financial assistance as well as recipients, which has been EPA practice. A number of minor changes and technical corrections have also been made. For administrative reasons, these regulations, which were published as proposed regulations for part 5 of title 40 are published as final regulations in part 7 of that title.

Effective date. The regulations of this part 7 shall become effective August 6, 1972, with respect to all grants awarded and assistance extended on or after such date. Grants awarded and assistance extended before such effective date shall continue to be governed by prior unedited regulations and procedures (see 37 FR 11073), unless this part 7 is made applicable to such grants and assistance through a grant amendment or written agreement with the recipient.

WILLIAM D. RUCKELSHAUS,
Administrator.

Dated September 8, 1972.

Title 40 of the Code of Federal Regulations is amended by adding a new Part 7 to read as follows:

Sec.

7.1 Purpose.
7.2 Definitions.
7.3 Applicability.
7.4 Discrimination prohibited.
7.5 Affirmative action.
7.6 Assurance required.
7.7 Compliance information.
7.8 Investigations.
7.9 Procedure for obtaining compliance.
7.10 Hearings.
7.11 Decisions and notices.
7.12 Judicial review.
7.13 Effect on other regulations, forms, and instructions.

AUTHORITY: Sec. 602 of the Civil Rights Act of 1964, 42 U.S.C. 2000d-1.

§ 7.1 Purpose.

The purpose of this part is to effectuate title VI of the Civil Rights Act of 1964 (hereinafter referred to as the Act) to the end that no person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving financial assistance from the Environmental Protection Agency (EPA).

§ 7.2 Definitions.

Unless the context requires otherwise, as used in this part the term:

(a) "Administrator" means the Administrator of the Environmental Protection Agency or, except in § 7.11(c), any other Agency official who by delegation may exercise the Administrator's authority.

(b) "Agency" means the Environmental Protection Agency and includes each and all of its organizational components.

(c) "Applicant" means one who submits an application, subagreement, request, plan, or any other document required to be approved by the Administrator, or by a primary recipient, as a condition to eligibility for Federal financial assistance, and "application" means such an application, subagreement, request, plan, or any other such document.

(d) "Facility" includes all or any part of structures, equipment, or other real or personal property or interests therein, and the term "provision of facilities" includes the construction, expansion, renovation, remodeling, alteration or acquisition of facilities.

(e) "Federal financial assistance" includes:

(1) Grants, loans, and advances of Federal funds;

(2) The grant or donation of Federal property and interests in property;

(3) The detail of Federal personnel;

(4) The sale or lease of, or the permission to use (on other than a casual or transient basis), Federal property or any interest in such property without consideration, or for less than adequate consideration for the purpose of assisting the recipient, or in recognition of the public interest to be served by such a sale or lease to the recipient; and

(5) Any Federal agreement, arrangement, or other contract which has as one of its purposes the provision of assistance.

(f) "Primary recipient" means any recipient which is authorized or required to extend Federal financial assistance to another recipient for the purpose of carrying out a program for which it receives Federal financial assistance.

(g) "Program" includes any program, project, or activity for the provision of services, financial assistance, or other benefits to individuals (including education or training, health, welfare, housing, rehabilitation, or other services, whether provided through employees of the recipient of Federal financial assistance or provided by others through contracts or other arrangements with the recipient, and including work opportunities or other assistance to individuals), or for the provisions of facilities for furnishing services, financial assistance, or other benefits to individuals. The services, financial assistance, or other benefits provided under a program receiving Federal financial assistance shall be deemed to include (i) any services, financial assistance, or other benefits provided with the aid of Federal financial assistance or with the aid of any non-federal funds, property, or other resources required to be expended or made available for the program to meet matching requirements or other conditions which must be met in order to receive the Federal financial assistance, and (ii) any services, financial assistance, or other benefits provided in or through a facility provided with the aid of Federal financial assistance or such non-federal resources.

(h) "Recipient" means any State, or any political subdivision or instrumentality thereof, any public or private agency, institution, organization, or other entity, or any individual, in any State to which or whom Federal financial assistance is extended, directly or through another recipient, for any program, or who otherwise participates in carrying out such program, including any successor, assignee, or transferee thereof, but such term does not include any ultimate beneficiary under any such program.

(i) "State" means any State of the United States, the District of Columbia, Puerto Rico, the Virgin Islands, American Samoa, Guam, Wake Island, the Canal Zone, or any territory or possession of the United States.

§ 7.3 Applicability.

(a) This part applies to any program for which Federal financial assistance is authorized under a statute administered by the Agency, including all EPA grant programs and activities (including, but not limited to, those listed in 40 CFR 30.301–4) and assistance under the Uniform Relocation Assistance and Land Acquisition Policies Act of 1970, 42 U.S.C. 4621 et seq. and the Disaster Relief Act of 1970, 42 U.S.C. 4401 et seq. It applies to any such program or activity to which money was paid, property transferred, or other Federal financial assistance exmoney was paid, property transferred, or other Federal financial assistance extended after the effective date of this part including assistance extended pursuant to an application approved prior to the effective date. This part does not apply to: (1) Any program funded only by Federal financial assistance by way of insurance or guaranty, (2) any such program to which money was paid, property transferred, or other assistance extended only before the effective date of this part except where such assistance was subject to the title VI regulations of an agency whose responsibilities are now exercised by this Agency, (3) any assistance to any individual who is the ultimate beneficiary under any such program, or (4) any employment practice under any such program of any employer, employment agency, or labor organization, except as provided in § 7.4(c).

§ 7.4 Discrimination prohibited.

(a) *General.* No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity to which this part applies.

(b) *Specific discriminatory actions prohibited.* (1) A recipient under any program or activity to which this part applies may not, directly or indirectly, on the ground of race, color, or national origin:

(i) Deny a person any service, financial assistance, or other benefit provided under the program;

(ii) Provide to a person any service, financial assistance, or other benefit which is different, or is provided in a different manner, from that provided to others under the program;

(iii) Subject a person to segregation or separate treatment in any matter related to his receipt of any service, financial assistance, or other benefit under the program;

(iv) Restrict a person in any way in the enjoyment of any advantage or privilege enjoyed by others receiving any service, financial assistance, or other benefit under the program;

(v) Treat a person differently from others in determining whether he satisfies any admission, enrollment, quota, eligibility, membership, or other requirement or condition which persons must meet in order to be provided any service, financial assistance, or other benefit provided under the program;

(vi) Deny a person an opportunity to participate in the program through the provision of services (or otherwise) or afford him an opportunity to participate in a manner different from that afforded others; or

(vii) Deny a person the opportunity to participate as a member of any planning or advisory body which is an integral part of the program.

(2) A recipient in determining the types of services, financial assistance, or other benefits or facilities which will be provided under any such program or the class of persons to whom, or the situations in which such services, financial assistance, other benefits, or facilities will be provided under any such program, or the class of persons to be afforded an opportunity to participate in any such program may not, directly or indirectly, utilize criteria or methods of administration which have or may have the effect of subjecting a person to discrimination because of race, color, or national origin, or which have or may have the effect of defeating or substantially impairing accomplishment of the objectives of the program or activity with respect to individuals of a particular race, color, or national origin.

(3) In any program receiving financial assistance in the form, or for acquisition, of real property or an interest in real property, to the extent that rights to space on, over, or under any such property are included as part of the program receiving that assistance, the nondiscrimination requirement of this part shall extend to any facility located wholly or in part in that space during the period of time stated in § 7.8(a)(2).

(4) The enumeration of specific forms of prohibited discrimination in this paragraph does not limit the generality of the prohibition in paragraph (a) of this section.

(c) *Employment practices.* (1) Where a primary objective of a program receiving Federal financial assistance to which this part applies is to provide employment, a recipient or other person or entity subject to this part shall not discriminate, directly or indirectly, on the ground of race, color, or national origin in its employment practices under such program. Employment practices include recruitment, recruitment advertising, employment, layoff, termination, firing, upgrading, demotion, transfer, rates of pay, or other forms of compensation or benefits, selection for training or apprenticeship, use of facilities, and treatment of employees. Each recipient shall take affirmative steps to insure that applicants are employed and employees are treated during employment without regard to race, color, or national origin. Where this part applies to construction employment, the applicable requirements shall be those specified in or pursuant to Part III of Executive Order 11246, as amended, or any Executive order which may supersede it.

(2) In regard to Federal financial assistance which does not have providing employment as a primary objective, the provisions of paragraph (c)(1) of this section apply to the employment prac-

tions of the recipient if discrimination on the ground of race, color, or national origin in such employment practices tends, on the ground of race, color, or national origin, to exclude persons from participation in, to deny them the benefits of, or to subject them to discrimination under the program receiving Federal financial assistance. In any such case, the provisions of paragraph (c)(1) of this section shall apply to the extent necessary to assure equality of opportunity to and nondiscriminatory treatment of beneficiaries.

(d) *Site selection.* A recipient may not make a selection of a site or location of a facility if the purpose of that selection, or its effect when made, is to exclude individuals from participation in, to deny them the benefits of, or to subject them to discrimination under any program or activity to which this rule applies, on the ground of race, color, or national origin.

(e) *Construction projects.* An EPA grantee of funds for the location, design, or construction of a demonstration facility or sewage treatment plant may not deny access to, or use of, the facility being constructed or the system of which it is a part of any person on the basis of race, color, or national origin.

§ 7.5 Affirmative action.

(a) Each applicant or recipient must take reasonable steps to remove or overcome the consequences of prior discrimination and to accomplish the purposes of the Act where previous practice or usage has in purpose or effect tended to exclude individuals from participation in, deny them the benefits of, or subject them to discrimination under any program or activity to which this part applies, on the ground of race, color, or national origin.

(b) Even in the absence of such prior discrimination, a recipient in administering a program may take affirmative action to overcome the effects of conditions which resulted in limiting participation by, or denying benefits to, persons of a particular race, color, or national origin.

§ 7.6 Assurances required.

(a) *General.* (1) *Form of assurance.* Every application for Federal financial assistance to a program to which this part applies, and every application for Federal financial assistance to provide a facility shall, as a condition to its approval and the extension of any Federal financial assistance pursuant to the application, contain or be accompanied by an assurance that the program will be conducted or the facility operated in compliance with all requirements imposed by or pursuant to this part, and that the applicant shall take affirmative steps to insure equal opportunity and shall periodically evaluate its performance. Like assurances will be required of subgrantees, contractors and subcontractors, transferees, successors in interest, and other participants in the program. Any such assurance shall include provisions which express consent to judicial enforcement by the United States.

(2) *Duration of assurance.* In cases where the Federal financial assistance is to provide or is in the form of either personal property or real property or any interest therein or structures thereon, the assurance shall obligate the recipient or in the case of a subsequent transfer, the transferee, for the period during which the property is used for any purpose for which the Federal financial assistance is or was extended or for another purpose involving the provision of similar services or benefits, or for as long as the recipient retains ownership or possession of the property, whichever is longer. In all other cases the assurance shall obligate the recipient for the period during which Federal financial assistance is extended to the program.

(3) *Assistance for construction.* In the case where the assistance is sought for the construction of a facility, or a part of a facility, the assurance shall in any event extend to the entire facility and to facilities operated in connection therewith. In particular, if a facility to be constructed is part of a larger system, the assurance shall extend to the larger system.

(4) *Assistance through transfer of real property.* Where Federal financial assistance is provided in the form of a transfer from the Federal Government of real property, structures, any improvements thereon, or any interest therein, the instrument effecting or recording the transfer shall contain a covenant running with the land assuring nondiscrimination for the period for which the real property is used for a purpose for which the Federal financial assistance is or was extended or for another purpose involving the provision of similar services or benefits. Where no transfer of property or an interest therein from the Federal Government is involved, but property is acquired or improved under a program of Federal financial assistance, the recipient shall agree to include such a covenant in any subsequent transfer of such property. When the property is obtained from the Federal Government, the covenant may also include a condition coupled with a right to be reserved by the Agency to revert title to the property in the event of a breach of the covenant. Such a condition and right of reverter may be included in covenants for any grants or other assistance that the Administrator in his discretion deems appropriate for such treatment. In such event if a transferee of real property proposes to mortgage or otherwise encumber the real property as security for financing construction of new, or improvement of existing, facilities on such property for the purposes for which the property was transferred, the Administrator may agree, upon request of the transferee and if necessary to accomplish such financing, and upon such conditions as he deems appropriate, to subordinate such right of reversion to the lien of such mortgage or other encumbrance.

(b) *Continuing State programs.* Every application by a State or a State agency to carry out a program involving continuing Federal financial assistance to which this part applies shall, as a condition to its approval and the extension of any Federal financial assistance pursuant to the application, (1) contain or be accompanied by a statement that that program is (or, in the case of a new program, will be) conducted in compliance with all requirements imposed by or under this part, and (2) provide or be accompanied by provision for such methods of administration for the program as are found by the Administrator to give reasonable assurance that the applicant and all recipients of Federal financial assistance under such program will comply with all requirements imposed by or under this part.

(c) *Assurances from educational institutions.* In the case of any application for Federal financial assistance to an institution of higher education, the assurance required by this section shall extend to admission practices and to all other practices relating to the treatment of students.

§ 7.7 Compliance information.

(a) *Cooperation and assistance.* Each responsible Agency official shall seek the cooperation of recipients and applicants in obtaining compliance with this part and shall provide assistance and guidance to recipients and applicants to help them comply voluntarily with this part.

(b) *Compliance reports.* Each recipient or applicant shall keep such records and submit to the responsible Agency official or his designee timely, complete, and accurate compliance reports at such times, in such form, and containing such information, as the responsible Agency official or his designee may determine to be necessary or useful to enable the Agency to ascertain whether the recipient or applicant has complied or is complying with this part. Recipients and applicants shall have available for Agency officials on request racial/ethnic and national origin data showing the extent to which minorities are or will be beneficiaries of the assistance. In the case of any program under which a primary recipient extends or will extend Federal financial assistance to any other recipient such other recipient shall submit such compliance reports to the primary recipient as may be necessary or useful to enable the primary recipient to carry out its obligations as a recipient or applicant under this part.

(c) *Access to sources of information.* Each recipient shall permit access by the responsible Agency official or his designee during normal business hours to such of its facilities, books, records, accounts, and other sources of information as may be relevant to a determination of whether or not the recipient is complying with this part. Where any information required of a recipient is in the exclusive possession of any other agency, institution, or person and such agency, institution, or person fails or refuses to furnish this information, the recipient shall so certify in its report and shall set forth what efforts it had made to obtain the information.

(d) *Information to beneficiaries and participants.* Each recipient shall make available to participants, beneficiaries,

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and other interested persons any information pertinent to the provisions of this part and its applicability to the program receiving Federal financial assistance which is necessary or useful to apprise such persons of the protections against discrimination assured them by the Act and by this part.

§ 7.8 Investigations.

(a) *Periodic compliance reviews.* The Administrator shall from time to time review the practices of recipients to determine whether they are complying with this part.

(b) *Complaints.* Any person or entity who believes himself or any specific class of persons to be subjected to discrimination prohibited by this part may by himself or by a representative file with the Administrator a written complaint. This complaint should be filed as promptly as possible after the date of the alleged discrimination.

(c) *Investigations.* The Administrator will make a prompt investigation whenever a compliance review, report, complaint, or any other information indicates a possible failure to comply with this part. The investigation will include, where appropriate, a review of the pertinent practices and policies of the recipient, the circumstances under which the possible noncompliance with this part occurred, and other factors relevant to a determination of whether the recipient has failed to comply with this part.

(d) *Resolution of investigations.* (1) If an investigation indicates a failure to comply with this part, the Administrator will so inform the recipient and complainant, if any, in writing, and the matter will be resolved by informal means whenever possible. If the Administrator determines that the matter cannot be resolved by informal means, action will be taken as provided for in § 7.9.

(2) If an investigation does not warrant action pursuant to paragraph (d)(1) of this section, the Administrator will so inform the recipient and complainant, if any, in writing.

(e) *Intimidatory or retaliatory acts prohibited.* No recipient or other person shall intimidate, threaten, coerce, or discriminate against any individual for the purpose of interfering with any right or privilege secured by the Act or by this part, or because he has made a complaint, testified, assisted, or participated in any manner in an investigation, proceeding, or hearing under this part. The Administrator or his designee may agree to keep confidential the identity of any complainant except to the extent that disclosure would be required by law in proceedings for the enforcement of this part.

§ 7.9 Procedure for obtaining compliance.

(a) *General.* If compliance with this part cannot be assured by informal means, compliance with this part shall be effected by termination of or refusal to grant or to continue Federal assistance in accordance with the procedures of paragraph (b) of this section, or by any other means authorized by law in accordance with the procedures of paragraph (c) of this section. Such other means include, but are not limited to, (1) a referral of the matter to the Department of Justice with a recommendation that appropriate judicial proceedings be brought to enforce any rights of the United States under any law or assurance or contractual undertaking, and (2) any applicable proceeding under State or local law. A decision to take action under this section shall conform with "Guidelines for the enforcement of Title VI, Civil Rights Act of 1964," 28 CFR 50.3.

(b) *Procedure for termination or refusal to grant or continue assistance.* An order terminating or refusing to grant or continue Federal assistance shall become effective only after:

(1) The Administrator has advised the applicant or recipient of its failure to comply and has determined that compliance cannot be secured by voluntary means;

(2) There has been an express finding on the record, after opportunity for hearing, of a failure by the applicant or recipient to comply with a requirement imposed by or under this part;

(3) The action has been approved by the Administrator pursuant to § 7.11(e); and

(4) The expiration of 30 days after the Administrator has filed with the Committee of the House and the Committee of the Senate having legislative jurisdiction over the program or activity involved, a full written report of the circumstances and the grounds for such action.

The termination or refusal to grant or continue assistance shall be limited to the particular political entity, or part thereof, or other recipient as to which a finding of noncompliance with title VI has been made and shall be limited in its effect to the particular program or part thereof in which such noncompliance has been so found.

(c) *Other means authorized by law.* No action to effect compliance with title VI of the Act by any other means authorized by law shall be taken until:

(1) The Administrator has determined that compliance cannot be secured by voluntary means, and the recipient or other person against whom action will be sought has been notified of such determination; and

(2) The expiration of at least 10 days from the mailing of such notice to the recipient or such other person. During this period of at least 10 days, additional efforts may be made to persuade the recipient or such other person to take such corrective action as may be appropriate.

§ 7.10 Hearings.

(a) *Opportunity for hearing.* Whenever an opportunity for a hearing is required by § 7.9(b), reasonable notice shall be given by certified mail, return receipt requested, to the affected applicant or recipient. This notice shall fix a date not less than 3 weeks after the date of receipt of such notice within which the applicant or recipient may file with the Administrator a request in writing that the matter be scheduled for hearing. An applicant or recipient may waive a hearing and submit written information and argument for the record. The failure of an applicant or recipient to request a hearing under this paragraph or to appear at a hearing for which a date has been set shall be deemed to be a waiver of the right to a hearing under section 602 of th Act and § 7.9(b) and consent to the making of a decision on the basis of such information as is available.

(b) *Time and place of hearing.* Hearings shall be held at the offices of the Agency in Washington, D.C., unless the Administrator determines that the convenience of the applicant or recipient or of the Agency requires that another place be selected. Hearings shall be held at a time fixed by the Administrator before a hearing examiner appointed in accordance with section 3105 of title 5, United States Code, or detailed under section 3344 of title 5, United States Code.

(c) *Right to counsel.* In any proceeding under this section, the applicant or recipient and the Agency shall have the right to be represented by counsel.

(d) *Procedures, evidence, and record.* (1) The hearing, decision, and any administrative review thereof shall be conducted in conformity with 5 U.S.C. 554–557 (1970).

(2) Technical rules of evidence do not apply to hearings conducted pursuant to this part, but rules or principles designed to assure production of the most credible evidence available and to subject testimony to test by cross-examination shall be applied where reasonably necessary by the officer conducting the hearing. A transcript shall be made of the oral evidence except to the extent the substance thereof is stipulated for the record. All decisions shall be based upon the hearing record and written findings shall be made.

(e) *Consolidated or joint hearings.* In cases in which the same or related facts are asserted to constitute either (1) noncompliance with this part with respect to two or more types of Federal financial assistance to which this part applies, or (2) noncompliance with both this part and the regulations of one or more other Federal departments or agencies issued under title VI of the Act, the Administrator may, by agreement where necessary with such other departments or agencies, provide for the conduct of consolidated or joint hearings, and for the application to such hearings of rules or procedures not inconsistent with this part. Final decisions in such cases, insofar as this Agency is concerned shall be made in accordance with § 7.11.

§ 7.11 Decisions and notices.

(a) *Procedure on decisions by hearing examiner.* The hearing examiner shall make an initial decision, including his recommended findings and proposed decision, and a copy of such initial decision shall be mailed by certified mail (return receipt requested) to the applicant or recipient. The applicant or recipient may, within 30 days after the receipt of such

notice of initial decision, file with the Administrator his exceptions to the initial decision, and his reasons therefor. In the absence of exceptions, the Administrator may, on his own motion, within 45 days after the initial decision, serve on the applicant or recipient a notice that he will review the decision. Upon the filing of such exceptions or of notice of review, the Administrator shall review the initial decision and issue his own decision thereon including the reasons therefor. In the absence of either exceptions or a notice of review the initial decision shall, subject to paragraph (e) of this section, constitute the final decision of the Administrator.

(b) *Decisions on record on review by the Administrator.* Whenever the Administrator reviews the decision of a hearing examiner pursuant to paragraph (a) of this section, the applicant or recipient, the Agency officials responsible, and the complainant, if any, shall be given reasonable opportunity to file with him briefs or other written statements of their contentions, and a written copy of the final decision of the Administrator shall be sent to the applicant or recipient and to the complainant, if any.

(c) *Decisions on record where a hearing is waived.* Whenever a hearing is waived pursuant to § 7.10(a), a decision shall be made by the Administrator on the record and a written copy of such decision shall be sent to the applicant or recipient, and to the complainant, if any.

(d) *Rulings required.* Each decision of a hearing examiner shall set forth his ruling on each finding, conclusion, or exception presented, and shall identify the requirement or requirements imposed by or pursuant to this part with which it is found that the applicant or recipient has failed to comply.

(e) *Approval by Administrator.* Any decision by an official of the Agency, other than the Administrator personally, which provides for the termination of, or the refusal to grant or continue, Federal financial assistance, or the imposition of any other sanction available under this part or the Act, shall promptly be transmitted to the Administrator personally, who may approve such decision, vacate it, or remit or mitigate any sanction imposed.

(f) *Content of orders.* The final decision may provide for termination of, or refusal to grant or continue, Federal financial assistance, in whole or in part, to the program involved and may contain such terms, conditions, and other provisions as are consistent with and will effectuate the purpose of the Act and this part, including provisions designed to assure that no Federal financial assistance will thereafter be extended under such program to the applicant or recipient determined by such decision to have failed to comply with requirements imposed by or under this part unless and until it corrects its noncompliance and satisfies the Administrator that it will fully comply with this part.

(g) *Post-termination proceedings.* (1) An applicant or recipient adversely affected by an order issued under paragraph (f) of this section shall be restored to full eligibility to receive Federal financial assistance from the Agency if it satisfies the terms and conditions of that order for such eligibility and brings itself into compliance with this part and provides reasonable assurance that it will fully comply with this part in the future.

(2) Any applicant or recipient adversely affected by an order entered pursuant to paragraph (f) of this section may at any time request the Administrator to restore fully its eligibility to receive Federal financial assistance from the Agency. Any such request shall be supported by information showing that the applicant or recipient has met the requirements of paragraph (g)(1) of this section. If the Administrator determines that those requirements have been satisfied, he shall restore such eligibility.

(3) If the Administrator denies any request made under paragraph (g)(2) of this section, the applicant or recipient may submit a request in writing for a hearing, specifying why it believes him to have been in error. It shall thereupon be given an expeditious hearing, with a decision on the record in accordance with rules or procedures issued by the Administrator. The applicant or recipient will be restored to such eligibility if it proves at such a hearing that it satisfied the requirements of paragraph (g)(1) of this section. Failure to file such a request within 3 weeks after receipt of notice of such denial shall constitute consent to the Administrator's determination.

(4) While proceedings under paragraph (g) of this section are pending, the sanctions imposed by the order issued under paragraph (f) of this section shall remain in effect.

§ 7.12 Judicial review.

Action taken under the Act is subject to judicial review as provided therein.

§ 7.13 Effect on other regulations, forms, and instructions.

(a) *Effect on other regulations.* All regulations, orders, or like directions issued before the effective date of this part by any officer of the Agency, or by any predecessor of such an officer, which impose requirements designed to prohibit any discrimination against individuals on the ground of race, color, or national origin under any program to which this part applies, and which authorize the termination of or refusal to grant or to continue Federal financial assistance to any applicant for or recipient of such assistance under such program for failure to comply with such requirements, are hereby superseded to the extent that the discrimination against which they are directed is prohibited by this part, except that nothing in this part shall relieve any person of any obligation assumed or imposed under any such superseded regulations, order, or like direction before the effective date of this part. Nothing in this part, however, supersedes any of the following (including future amendments thereof): (1) Executive Order 11246 (3 CFR 1965 Supp., page 167) and regulations issued thereunder, or (2) any other orders, regulations, or instructions insofar as such orders, regulations, or instructions prohibit discrimination on the ground of race, color, or national origin in any program or situation to which this part is inapplicable, or prohibit discrimination on any other ground.

(b) *Forms and instructions.* The Administrator shall issue and promptly make available to all interested persons forms and detailed instructions and procedures for effectuating this part as applied to programs to which this part applies and for which he is responsible.

(c) *Supervision and coordination.* The Administrator may from time to time assign to officials of the Agency, or to officials of other departments or agencies of the government with the consent of such departments or agencies, responsibilities in connection with effectuation of the purposes of title VI of the Act and this part including the achievement of effective coordination and maximum uniformity within the Agency and within the Executive Branch of the government in the application of title VI and this part to similar programs and in similar situations. The Administrator may delegate in writing any function assigned (other than responsibility for final decision as provided in § 7.11) to him by the Act or by this part. Any action taken, determination made or requirement imposed by an official of another department or agency acting pursuant to an assignment or delegation of responsibility under this paragraph shall have the same effect as though such action had been taken by the Administrator of the Agency. All actions taken pursuant to this part with respect to EPA grants including written communications to or from a grant applicant or grantee shall be effected through the appropriate EPA Grants Officer.

[FR Doc 73-13298 Filed 7-3-73;8:45 am]

Title 41—Public Contracts and Property Management

CHAPTER 101—FEDERAL PROPERTY MANAGEMENT REGULATIONS

PART 101-6 MISCELLANEOUS REGULATIONS

Nondiscrimination in Federally Assisted Programs

On pages 23488 through 23491 of the FEDERAL REGISTER of December 9, 1971, there was published a notice of a proposed rule making to issue regulations designed to ensure nondiscrimination in programs for which Federal financial assistance is authorized to be provided by GSA. Interested persons were invited to submit comments, suggestions, or objections regarding the proposed regulations.

Comments were submitted to and reviewed by the Civil Rights Division, Department of Justice, which determined that no additions are required to the GSA regulations. Accordingly, the proposed regulations are hereby adopted without change and are set forth below.

GPO 884-632

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II. 5

federal register

FRIDAY, JANUARY 25, 1974
WASHINGTON, D.C.
Volume 39 ■ Number 18
Pages 3243–3524
PART I

ENVIRONMENTAL PROTECTION AGENCY
Rules and Regulations
Equal employment opportunity under EPA contracts and EPA assisted construction contracts. 3258

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Title 40—Protection of the Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

PART 8—EQUAL EMPLOYMENT OPPORTUNITY UNDER EPA CONTRACTS AND EPA ASSISTED CONSTRUCTION CONTRACTS

The following regulations are promulgated in implementation of Parts II and III of Executive Order 11246. Part II concerns "Nondiscrimination in Employment by Government Contractors." Part III concerns "Nondiscrimination Provisions in Federally-Assisted Construction Contracts." The regulations are proposed for adoption on behalf of the Agency as Part 8 of the Agency's regulations in Title 40 of the Code of Federal Regulations.

Section 201 of Executive Order 11246 designates the Secretary of Labor as the official responsible for administration of Parts II and III of the Order. It requires him to adopt such rules and regulations and to issue such orders as he deems necessary to achieve the purposes of the Order. Pursuant to this requirement, the Secretary of Labor issued implementing regulations (41 CFR Part 60-1) which require that "The Head of each Agency shall prescribe regulations for the administration of the Order and Regulations." (60-1.6(c)).

In implementation of this requirement, a first draft of regulations for the Environmental Protection Agency was prepared and published in the FEDERAL REGISTER on June 6, 1972, Volume 37, pages 11264-11273, as a notice of proposed rulemaking. Interested parties were invited to submit written data, views, or comments on the proposed regulations.

On October 12, 1972, the Department of Labor amended all of its Area Bid Conditions which set forth the Affirmative Action and Equal Employment Opportunity requirements affecting direct Federal and Federally-assisted construction contracts. This change by the Department of Labor necessitated a change in this Agency's proposed regulations since it has been our purpose to have the Environmental Protection Agency's regulations relating to affected construction contracts outside the Department of Labor's "Imposed" and "Hometown" Plan areas follow as closely as possible the Department of Labor's procedures in such areas. Section 8.8 of the attached regulations, accordingly, is a revision of the § 8.8 proposed in the publication of June 6, 1972. Essentially, the revised Section 8.8 has been expanded to set forth in more detail the affirmative action requirements for direct Federal and Federally-assisted construction contracts within the purview of this Agency but outside the specially designated "Imposed" and "Hometown" Plan areas specified by the Department of Labor.

Effective date. This revision of proposed regulations for the Environmental Protection Agency in implementation of Parts II and III of Executive Order 11246 incorporates changes made in § 8.8 to pattern the regulations after procedures adopted by the Department of Labor subsequent to our notice of publication on June 6, 1972. The revisions are such that their publication as proposed rule making would serve no useful purpose and would not be in the public interest. The revisions will require adjustment of internal contract compliance administrative procedures pertaining to construction projects affected by these regulations. Accordingly, Subpart A of the revised regulations set forth below shall be effective on January 31, 1974, and shall be applicable to all grants awarded after that date. Subpart B shall be effective January 25, 1974, and shall be applicable to all grants and contracts awarded before, on, or after such date.

Dated: January 17, 1974.

RUSSELL E. TRAIN,
Administrator.

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AUTHORITY: Section 201, Executive Order 11246, 30 FR 12319; and 41 CFR 60-1.6(c).

Subpart A—Compliance Standards and Procedures

§ 8.1 Purpose.

This part prescribes standards and procedures for the Environmental Protection Agency in discharging its responsibilities under Executive Order 11246; the rules and regulations of the Secretary of Labor, codified in 41 CFR Part 60, prescribed thereunder; and other rules, orders, instructions, designations, and directives issued by the Office of Federal Contract Compliance, Department of Labor.

§ 8.2 Definitions.

(a) "Administering agency" means any department, agency, and establishment in the Executive Branch of the Government, including any wholly owned Government corporation, which administers a program involving federally assisted construction contracts.

(b) "Administrator" means the Administrator of the Environmental Protection Agency.

(c) "Agency" means the Environmental Protection Agency.

(d) "Applicant" means an applicant for Federal assistance from the Agency involving a construction contract, or other participant in a program involving a construction contract as determined by the regulations of the Agency. The term also includes such persons after they become recipients of such Federal assistance.

(e) "Compliance Agency" means the agency designated by the Director on a geographical, industry, or other basis to conduct compliance reviews and to undertake such other responsibilities in connection with the administration of the order as the Director may determine to be appropriate. In the absence of such a designation the Compliance Agency will be determined as follows:

(1) In the case of a prime contractor not involved in construction work, the Compliance Agency will be the agency whose contracts with the prime contractor have the largest aggregate dollar value;

(2) In the case of a subcontractor not involved in construction work, the Compliance Agency will be the Compliance Agency of the prime contractor with which the subcontractor has the largest aggregate value of subcontracts or purchase orders for the performance of work under contracts;

(3) In the case of a prime contractor or subcontractor involved in construction work, the Compliance Agency for each construction project will be the agency providing the largest dollar value for the construction projects; and

(4) In the case of a contractor who is both a prime contractor and subcontractor, the Compliance Agency will be determined as if such contractor is a prime contractor only.

(f) "Construction work" means the construction, rehabilitation, alteration, conversion, extension, demolition or repair of buildings, highways, or other changes or improvements to real property, including facilities providing utility services. The term also includes the supervision, inspection, and other on-site functions incidental to the actual construction.

(g) "Contract" means any Government contract or any federally assisted construction contract.

(h) "Contractor" means, unless otherwise indicated, a prime contractor or subcontractor.

(i) "Director" means the Director, Office of Federal Contract Compliance, U.S. Department of Labor, or any person to whom he delegates authority under the regulations of the Secretary of Labor.

(j) "Equal opportunity clause" means the contract provisions set forth in sections 4(a) or (b), as appropriate.

(k) "Facilities" includes, but it is not limited to, waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees.

(l) "Federally assisted construction contract" means any agreement or modification thereof between any applicant and any person for construction work which is paid for in whole or in part with funds obtained from the Agency or borrowed on the credit of the Agency pursuant to any Federal program involving a grant, contract, loan, insurance, or guarantee, or undertaken pursuant to any Federal program involving such grant, contract, loan, insurance, or guarantee, or any application or modification thereof approved by the Agency for a grant, contract, loan, insurance, or guarantee under which the applicant itself participates in the construction work.

(m) "Government" means the Government of the United States of America.

(n) "Government contract" means any agreement or modification thereof between any contracting agency and any person for the furnishing of supplies or services or for the use of real or personal property, including lease arrangements. The term "services," as used in this definition includes, but is not limited to, the following services: Utility, construction, transportation, research, insurance, and fund depository. The term "government contract" does not include (1) agreements in which the parties stand in the relationship of employer and employee, and (2) federally assisted construction contracts.

(o) "Hearing officer" means the individual or board of individuals designated to conduct hearings.

(p) "Modification" means any alteration in the terms and conditions of a contract, including supplemental agreements, amendments and extensions.

(q) "Order" means Parts II, III, and IV of Executive Order 11246, dated September 24, 1965 (30 FR 12319), and any Executive Order amending or superseding such orders.

(r) "Person" means any natural person, corporation, partnership, unincorporated association, State or local government, and any agency, instrumentality, or subdivision of such a government.

(s) "Prime contractor" means any person holding a contract, and for the purposes of Subpart B (General Enforcement, Compliance Review, and Complaint Procedure) of the rules, regulations, and relevant orders of the Secretary of Labor, any person who has held a contract subject to the order.

(t) "Recruiting and training agency" means any person who refers workers to any contractor or subcontractor, or who provides or supervises apprenticeship or training for employment by any contractor or subcontractor.

(u) "Rules, regulations, and relevant orders of the Secretary of Labor" used in both paragraph (4) of the equal opportunity clause and elsewhere herein means rules, regulations, and relevant

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orders of the Secretary of Labor or his designee issued pursuant to the Order.

(v) "Site of construction" means the general physical location of any building, highway, or other change or improvement to real property which is undergoing construction, rehabilitation, alteration, conversion, extension, demolition, and repair and any temporary location or facility at which a contractor, subcontractor, or other participating party meets a demand or performs a function relating to the contract or subcontract.

(w) "Subcontract" means any agreement or arrangement between a contractor and any person (in which the parties do not stand in the relationship of any employer and an employee):

(1) For the furnishing of supplies or services or for the use of real or personal property, including lease arrangements, which, in whole or in part, is necessary to the performance of any one or more contracts; or

(2) Under which any portion of the contractor's obligation under any one or more contracts is performed, undertaken or assumed.

(x) "Subcontractor" means any person holding a subcontract and, for the purposes of Subpart B (General Enforcement; Compliance Review; and Complaint Procedure) of the rules, regulations, and relevant orders of the Secretary of Labor any person who had held a subcontract subject to the order. The term "First-tier subcontractor" refers to a subcontractor holding a subcontract with a prime contractor.

(y) "United States" as used herein shall include the several States, the District of Columbia, the Commonwealth of Puerto Rico, the Panama Canal Zone, and the possessions of the United States.

(z) "Minority group" as used herein shall include, where appropriate, female employees and prospective femal employees.

§ 8.3 Responsibilities.

(a) *General.* The Environmental Protection Agency is primarily responsible for implementing the requirements of the order, and all rules, regulations, and orders issued pursuant thereto for all contracts for which it is the Compliance Agency.

(b) *Contract Compliance Officer (CCO).* The Director of the Office of Civil Rights and Urban Affairs has been designated as the Contract Compliance Officer (CCO), and is responsible for developing and administering the Agency's program under the order.

(c) *Director, Compliance Division.* The Director of the Compliance Division (ADCCO) has been designated to assist the Contract Compliance Officer in the performance of his duties. He is authorized to exercise the authority of the Contract Compliance Officer.

(d) *Deputy Contract Compliance Officer (DCCO).* Each Regional Director of Civil Rights and Urban Affairs has been designated by the Contract Compliance Officer as Deputy Contract Compliance Officer (DCCO) for the Region in which he serves. Deputy Contract Compliance Officers are responsible for field administration of programs of contract compliance in conformity with directives and guidelines promulgated by the Contract Compliance Officer.

(e) *Heads of program areas.* Assistant Administrators and Regional Administrators who are authorized to extend Federal financial assistance which involves construction work shall be responsible for effectuating the order, rules, regulations, and relevant orders of the Secretary of Labor, OFCC directives this Part, directives of the Agency, and all other rules, regulations, and orders issued pursuant thereto as they relate to construction contracts financially assisted by the Agency.

§ 8.4 Equal opportunity clause.

(a) *Government contracts.* Except as otherwise provided, the following equal opportunity clause contained in section 202 of the Order shall be included in each Government contract entered into by the Agency (and modification thereof if not included in the original contract):

During the performance of this contract, the contractor agrees as follows:

(1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this equal opportunity clause.

(2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

(3) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of the contractor's commitments under this equal opportunity clause, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(4) The contractor will comply with all provisions of Executive Order No. 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(5) The contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(6) In the event of the contractor's noncompliance with the equal opportunity clause of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended, in whole or in part, and the contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(7) The contractor will include the provisions of paragraph (a)(1) through (7) of this section in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to sec. 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vender. The contractor will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, That in the event the contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

(b) *Federally assisted construction contracts.* Except as otherwise provided, the agency shall include or require the inclusion of the following language as a condition of any grant, contract, loan, insurance, or guarantee involving federally assisted construction which it administers as Administering Agency and which is not exempt from the requirements of the equal opportunity clause:

The applicant hereby agrees that it will incorporate or cause to be incorporated into any contract for construction work, or modification thereof, as defined in the regulations of the Secretary of Labor at 41 CFR Chapter 60, which is paid for in whole or in part with funds obtained from the Federal Government or borrowed on the credit of the Federal Government pursuant to a grant, contract, loan, insurance, or guarantee or undertaken pursuant to any Federal program involving such grant, contract, loan, insurance, or guarantee, the following equal opportunity clause:

During the performance of this contract, the contractor agrees as follows:

(1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this equal opportunity (federally assisted construction) clause.

(2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

(3) The contractor will send to each labor union or representative of workers, with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representative of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(4) The contractor will comply with all provisions of Executive Order No. 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(5) The contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(6) In the event of the contractor's noncompliance with the equal opportunity (federally assisted construction) clause of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended, in whole or in part, and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, or by rule, regulations, or order of the Secretary of Labor, or as provided by law.

(7) The contractor will include this equal opportunity (federally assisted construction) clause in every subcontract or purchase order unless exempted by the rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, That in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor, as a result of such direction by the administering agency the contractor may request the United States to enter into such litigation to protect the interests of the United States.

The applicant further agrees that it will be bound by the above equal opportunity clause with respect to its own employment practices when it participates in federally assisted construction work: *Provided*, That if the applicant so participating is a State or local government, the above equal opportunity clause is not applicable to any agency, instrumentality or subdivision of such government which does not participate in work on or under the contract.

The applicant agrees that it will assist and cooperate actively with the Agency and the Secretary of Labor in obtaining the compliance of contractors and subcontractors with the equal opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor; that it will furnish the Agency and the Secretary of Labor such information as they may require for the supervision of such compliance; and that it will otherwise assist the Agency in the discharge of its primary responsibility for securing compliance.

The applicant further agrees that it will refrain from entering into any contract or contract modification subject to the Order with a contractor debarred from, or who has not demonstrated eligibility for, Government contracts and federally assisted construction contracts pursuant to the Order and will carry out such sanctions and penalties for violation of the equal opportunity clause, as may be imposed upon contractors and subcontractors by the Agency or the Secretary of Labor pursuant to Part II, Subpart D of the Order. In addition, the applicant agrees that if it fails or refuses to comply with these undertakings, the Agency may take any or all of the following actions: Cancel, terminate, or suspend in whole or in part this grant (contract, loan, insurance, guarantee); refrain from extending any further assistance to the applicant under the program with respect to which the failure or refusal occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case to the Department of Justice for appropriate legal proceedings.

(c) *Subcontracts.* Each nonexempt prime contractor or subcontractor shall include the equal opportunity clause in each of its nonexempt subcontracts.

(d) *Incorporation by reference.* The equal opportunity clause may be incorporated by reference in Government bills of lading, transportation requests, contracts for deposit of Government funds, contracts for issuing and paying U.S. savings bonds and notes, contracts and subcontracts less than $50,000 and such other contracts as the Director may designate.

(e) *Incorporation by operation of the Order and Agency regulations.* By operation of the Order, and these regulations, the equal opportunity clause shall be considered to be a part of every contract and subcontract required by either the Order, the rules, regulations and relevant orders of the Secretary of Labor or these regulations to include such a clause whether or not it is physically incorporated in such contracts. The clause is hereby made a part of every nonexempt contract where there is no written contract between the Agency and the contractor.

(f) *Adaptation of language.* Such necessary changes in language may be made in the equal opportunity clauses as shall be appropriate to identify the parties and their undertakings.

§ 8.5 Exemptions.

(a) *General*—(1) *Transactions of $10,000 or under.* Contracts and subcontracts not exceeding $10,000, other than Government bills of lading, are exempt from the requirements of the equal opportunity clause. In determining the applicability of this exemption to any federally assisted construction contract, or subcontract thereunder, the amount of such contract or subcontract rather than the amount of the Federal financial assistance shall govern. The equal opportunity clause shall apply to all cases where the Agency, applicants, contractors, or subcontractors procure supplies or services in less than usual quantities to avoid applicability of the equal opportunity clause.

(2) *Contracts and subcontracts for indefinite quantities.* With respect to contracts and subcontracts for indefinite quantities (including, but not limited to, open-end contracts, requirement-type contracts, Federal Supply Schedule contracts, "call-type" contracts, and purchase notice agreements), the equal opportunity clause shall be included unless the purchaser has reason to believe that the amount to be ordered in any year under such contract will not exceed $10,000. The applicability of the equal opportunity clause shall be determined by the purchaser at the time of award for the first year, and annually thereafter for succeeding years, if any. Notwithstanding the above, the equal opportunity clause shall be applied to such contract whenever the amount of a single order exceeds $10,000. Once the equal opportunity clause is determined to be applicable, the contract shall continue to be subject to such clause for its duration, regardless of the amounts ordered or reasonably expected to be ordered in any year.

(3) *Work outside the United States.* Contracts and subcontracts are exempt from the requirements of the equal opportunity clause with regard to work performed outside the United States by employees who were not recruited within the United States.

(4) *Contracts with State or local governments.* The requirements of the equal opportunity clause in any contract or subcontract with a State or local government (or any agency, instrumentality or subdivision thereof) shall not be applicable to any agency, instrumentality or subdivision of such government which does not participate in work on or under the contract or subcontract. In addition, State and local governments are exempt from the requirements of filing the annual compliance report provided for by § 8.11(a) and maintaining a written affirmative action compliance program prescribed in §§ 8.7 and 8.8.

(b) *Specific contracts and facilities not connected with contracts.* The equal opportunity clause will not be required to be included in any contract or subcontract exempted by the Director under the provisions of 41 CFR 60-1.3(b)(1) or (2) provided such exemption has not been withdrawn under the provisions of 41 CFR 60-1.3(d).

(c) *National security.* Any requirement set forth in the regulations in this part shall not apply to any contract or subcontract whenever the Administrator determines that such contract or subcontract is essential to the national security and that its award without complying with such requirement is necessary to the national security. Upon making such a determination, the Administrator will notify the Director in writing within 30 days.

§ 8.6 *Pre-bid requirements and conferences.*

(a) *Nonconstruction contracts of $1 million or more.* The following notice shall be included in the invitation for bids, or request for proposals for each nonconstruction contract (advertised or

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negotiated) which may result in an award of $1 million or more:

PREAWARD EQUAL OPPORTUNITY COMPLIANCE REVIEWS

Where the bid (or offer) of the apparent low responsible bidder (or offeror) is in the amount of $1 million or more, the bidder (or offeror) and his known first-tier subcontractors which will be awarded subcontracts of $1 million or more will be subject to full, preaward equal opportunity compliance reviews before the award of the contract for the purpose of determining whether the bidder (or offeror) and his subcontractors are able to comply with the provisions of the equal opportunity clause.

Preaward compliance reviews may be conducted for any nonexempt nonconstruction contract or subcontract if, on the basis of complaint, past performance, investigation, or otherwise, the Agency believes that a prospective contractor or subcontractor is unable or unwilling to comply with the requirements of the equal employment opportunity clause.

(b) *Construction contracts.* (1) In certain designated metropolitan areas, the Office of Federal Contract Compliance has established or approved establishment of, special compliance programs. In each such area special procedures have been made applicable for all direct federal or federally assisted construction projects. Such rules, regulations, guidelines, and procedures shall be governing in each instance and take precedence over general EPA contract compliance regulations set forth herein for direct and EPA financially assisted construction projects.

(2) Except for the specially designated areas described in (1) above, the following notice shall be included in the invitation for bids or request for proposals for all EPA direct construction and EPA financially assisted construction contracts where projects costs reasonably may be expected to exceed $500,000:

PRE-CONSTRUCTION EQUAL OPPORTUNITY COMPLIANCE CONFERENCE

As part of the procedure for determining the ability of contractors to comply with the equal opportunity clause, prospective bidders may be required to attend a meeting scheduled by the Environmental Protection Agency prior to opening of bids where they will be instructed in the equal employment opportunity requirements of the Agency.

§ 8.7 *Affirmative action compliance programs—nonconstruction contracts.*

Order No. 4 (41 CFR Part 60-2), issued by the Secretary of Labor, sets forth requirements for the development of affirmative action compliance programs for nonconstruction contractors.

§ 8.8 *Affirmative action compliance programs—construction contracts.*

(a) In each area designated by the Office of Federal Contract Compliance for special compliance attention under Federal, State, or locally established compliance plans, the rules, regulations, and relevant orders of the Office of Federal Contract Compliance for the area shall be governing with respect to development, maintenance, and submission of affirmative action programs by bidders and contractors. Copies of such rules, regulations, and relevant orders promulgated by the Office of Federal Contract Compliance shall be furnished contractors by EPA in the instance of direct EPA construction contracting and to EPA's financial assistance recipient for submission to contractors in the instance of an EPA financially assisted construction contract.

(b) Outside the areas referred to in paragraph (a) of this section, and unless otherwise exempted by the Administrator, construction contracts for $500,000 or more, and subcontracts for $100,000 or more under such contracts, shall require that contractors and subcontractors awarded such contracts and subcontracts must engage in affirmative action directed at promoting and ensuring equal employment opportunity in the workforce under the contracts or subcontracts, such affirmative action to include, as appropriate, specific, result-oriented efforts such as:

(1) Notifying community organizations that the contractor has employment opportunities available and maintaining records of the organizations' response. Such organizations may include but shall not be limited to:

(i) Local women's organizations.

(ii) Minority employment agencies.

(iii) Minority construction workers' and contractors' associations.

(iv) Local Human Rights Councils or organizations.

(v) Local Urban League chapter.

(vi) Local high school and college job placement counselors.

(vii) Local minority churches.

(viii) Local Indian Tribal Councils and Indian centers.

(ix) Local Spanish-speaking organizations.

(x) Local National Association for the Advancement of Colored People (NAACP) chapters.

(xi) Local Organization of Industrial Centers.

(xii) Oriental Community Centers.

(2) Maintaining a file of the names and addresses of each minority worker referred to the contractor and what action was taken with respect to each such referred worker, and if the worker was not employed, the reasons therefor. If such worker was not sent to the union hiring hall for referral or if such worker was not employed by the contractor, the contractor's file should document this and the reasons therefor.

(3) Prompt notification to the Environmental Protection Agency when the union or unions with whom the contractor has a collective bargaining agreement has not referred to the contractor a minority worker sent by the contractor or the contractor has other information that the union referral process has impeded him in his efforts to meet his goal.

(4) Participation by the contractor in training programs in the area, especially those funded by the Department of Labor.

(5) Dissemination of the contractor's EEO policy within his own organization by including it in any policy manual; by publicizing it in company newspapers, annual reports, etc.; by conducting staff, employees, and union representatives' meetings to explain and discuss the policy; by posting the policy; and by specific review of the policy with minority employees.

(6) Dissemination of the contractor's EEO policy externally and discussions of it with all recruitment sources; advertising in news media specifically including minority news media; and by notification and discussion of the policy with all subcontractors and suppliers.

(7) Making specific and constant personal (both oral and written) recruitment efforts directed at all minority organizations, schools with minority students, minority recruitment organizations and minority training organizations, within the contractor's recruitment area.

(8) Making specific efforts to encourage present minority employees to recruit their friends and relatives.

(9) Validating all employment specifications, selection requirements, tests, and the like.

(10) Making every effort to promote after school, summer, and vacation employment to minority youths.

(11) Developing on-the-job and participating and assisting in any association or employee-group training programs relevant to the contractor's employee needs consistent with its obligations under this Part.

(12) Continual inventorying and evaluating all minority personnel for promotion opportunities and encouraging minority employees to seek such opportunities.

(13) Making sure that seniority practices, job classification, etc., do not have discriminatory effect.

(14) Making certain that all facilities and company activities are nonsegregated.

(15) Continuously monitoring all personnel activities to ensure EEO policy implementation.

(16) Circularizing minority contractor associations and soliciting subcontract work from available minority contractors, and maintaining a file of such effort, including explanations, when qualified, interested contractors are not engaged.

(c) The goal of the affirmative action required herein is insurance of equal employment opportunity. It is recognized that achievement of this goal and appraisal of effort to achieve it pose special problems for construction contractors because of the temporary and shifting nature of the employer-employee relationship in the construction industry, varying labor market conditions, and varying local contracting practices. Still, there are parameters by which effort and achievement can be evaluated. Where a contractor employs no minorities in his entire workforce, a legitimate presumption arises that the contractor has taken no affirmative action to ensure equal employment opportunity as herein required.

The burden of refuting this presumption rests with the contractor. Similarly, if the only minorities a contractor employs are in the unskilled trades of his workforce, a legitimate presumption arises that the contractor has taken no affirmative action to ensure equal employment opportunity in his skilled trade workforce. Again the burden of refuting the presumption rests with the contractor. On the other hand, if a contractor employs minorities in every trade of his workforce and maintains such employment among the trades over the entire life of his contract, a legitimate presumption arises that the contractor has taken affirmative action to achieve equal employment opportunity. The burden of refuting this presumption rests with the Agency.

(d) In connection with evaluating a contractor's affirmative action effort, it shall be no excuse that any union with which a contractor has a collective bargaining agreement providing for exclusive referral fails to refer minority employees. Discrimination in referral for employment, even if pursuant to provisions of a collective bargaining agreement, is prohibited by the National Labor Relations Act and Title VII of the Civil Rights Act of 1964. The fact that a contractor has delegated the responsibility for some of his employment practices to another organization or agency and that the delegatee organization or agency prevents the contractor from meeting his affirmative action EEO obligations pursuant to the Order does not vitiate the contractor's basic responsibilities under the Order.

(e) Where review of a contractor's workforce discloses an absence of minority employees among all trades, or a disproportionate representation of minorities in the workforce from what reasonably might be expected from the availability of such employees in the serving labor market area, the contractor will be called upon to show what affirmative good faith efforts he has made to ensure equal employment opportunity in his workforce. In this connection, good faith efforts shall be defined as: Contractor's efforts demonstrated by documentation showing his communications with minority community organizations having knowledge of the availability of minority workers or the ability to refer minorities for work. Such organizations shall include but not be limited to the organizations listed under § 8.8(b)(1). An additional ingredient of acceptable good faith efforts by a contractor is any effort made to obtain minority subcontractors for any portion of the work subcontracted.

(f) As evidence of his understanding of and agreement with the affirmative action requirements herein, each bidder on construction contracts where the bid is $500,000 or more shall file a signed certification with his bid acknowledging his understanding of the affirmative action requirements herein and certifying his agreement to make a good faith effort to achieve and maintain equal employment opportunity in the workforce under his contract through affirmative actions as herein specified. The certification also shall contain an estimate prepared by the bidder identifying the trades expected to be used in construction of the contract being bid; an estimate of the total manhours of work to be utilized by each trade in the performance of the contract; and, if determinable, an estimate of the minority manhours of work to be utilized in each trade. The certification also shall contain an undertaking by the bidder that he will obtain from each of his subcontractors a subcontractor's certification required by these regulations. The completed certification must be signed by an official of the bidder capable of binding the company and be filed with the bid as part of the bid.

(g) Prior to award of any subcontract for $100,000 or more for work under a construction contract for $500,000 or more, regardless of tier, the prospective subcontractor must execute and submit to the prime contractor a certification acknowledging his understanding of the affirmative action requirements herein and certifying his agreement to make a good faith effort to achieve and maintain equal employment opportunity in the workforce under his subcontract through affirmative actions as herein specified. The certification also shall contain an estimate prepared by the bidder identifying the trades expected to be used in the work performed under the subcontract; an estimate of the total manhours of work to be utilized by each trade in the performance of the work; and, if determinable, an estimate of the minority manhours of work to be utilized in each trade. The certification also shall contain an undertaking by the subcontractor that he will obtain a certification as required herein from each of his subcontractors and submit it to the prime contractor prior to award of such subcontract. The completed and signed subcontractor's certification shall be made a part of the subcontract to which it applies. Any subcontract subject to these requirements which is executed without incorporation of a signed and completed subcontractor's certification shall be ineligible for Agency financial assistance.

(h) Notwithstanding the express exclusion authorized herein, bidders on contracts where the bid is less than $500,000—but in no event below $10,000—may be required to file certifications as described above with their bids whenever circumstances with respect to particular construction or labor market areas make it necessary in the interests of assuring compliance with the requirements of the Order. Subcontractors under such contracts shall be required to file certifications as required herein.

(i) When pursuant to these regulations, submission of a certification is required to be made with bids or proposals for contracting, standards for such certification shall be incorporated in the bid invitations or requests for proposals issued in connection with such contracts.

(j) Where pursuant to § 8.8(a) or § 8.8 (b) of these regulations, bidders are required to submit certifications, written and signed affirmative action plans, goals and timetables for minority manpower utilization, or other documents with their bids, such material must be completed in detail exactly as prescribed and be received prior to bid opening. Failure to submit the material prior to bid opening shall render the bid non-responsive insofar as compliance with Agency equal employment opportunity requirements is concerned. Determinations on the question of responsiveness of bids insofar as filing of the required equal employment opportunity submissions described above are concerned shall be made by the Agency.

§ 8.9 Award of contracts.

(a) *Nonconstruction contracts of $1 million or more.* The Contracting Officer shall notify the ADCCO of the proposed contracting. No award shall be made by the Contracting Officer until contract compliance clearance has been received from the ADCCO.

(1) If EPA is the Compliance Agency for the industry concerned in the proposed contracting, the ADCCO will refer the contracting information to the appropriate individual on his staff for the Preaward Equal Opportunity Compliance Review required by § 8.6(a). Directions and advice respecting contract compliance clearance for the proposed contracting will be forwarded to the Contracting Officer by the ADCCO within 30 days following receipt of the contracting information.

(2) If any agency other than EPA is the Compliance Agency for the industry concerned, the ADCCO shall notify the designated Compliance Agency and request it to take appropriate action and make appropriate findings in accordance with § 8.6(a) of these regulations within 30 days following receipt of the ADCCO's request. Replies from the Compliance Agency will be transmitted to the Contracting Officer by the ADCCO.

(b) *Nonconstruction contracts of less than $1 million.* Except for special situations where the Agency believes a prospective contractor or subcontractor is unable or unwilling to comply with the requirements of the equal opportunity clause, as provided for in § 8.6(a) herein, preaward compliance reviews are not required for nonconstruction contracts of less than $1 million.

(c) *Construction contracts in areas designated by the Office of Federal Contract Compliance for special compliance attention under Federal and locally established and approved Compliance Plans.* The Contracting Officer or approving official shall notify the appropriate Regional DCCO of the proposed contracting. The Regional DCCO shall carry out the duties prescribed for contracting agencies by the rules, regulations, guidelines, and procedures promulgated by the Office of Federal Contract Compliance for the affected area. No award shall be made or approved by the Contracting Officer or approving official until contract compliance clearance has been received from the Regional DCCO.

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(d) *Construction contracts in areas other than those designated by the Office of Federal Contract Compliance for special compliance attention under Federal or locally established and approved Compliance Plans.* The Contracting Officer or approving official shall notify the appropriate Regional DCCO of the proposed contracting. The Regional DCCO shall inform the Contracting Officer or approving official of the EPA requirements respecting the proposed contracting. No award shall be made or approved by the Contracting Officer or approving official until contract compliance clearance has been received from the Regional DCCO.

§ 8.10 *Participation in areawide equal employment opportunity program.*

Any contractor who is a participant in, or is a member of an organization or association which participates in, an areawide equal employment opportunity program which is approved by the Agency and the Office of Federal Contract Compliance for the purpose of effectuating the goals of Executive Order 11246, may be deemed to be in compliance with the Order by virtue of such participation and shall be exempt from the requirement of developing and maintaining a written affirmative action program, unless required to do so under the areawide equal employment opportunity program.

§ 8.11 *Reports and other required information.*

(a) *Requirements for prime contractors and subcontractors.* (1) Each prime contractor with the Agency shall file, and each such prime contractor shall cause its subcontractors to file, annually, on or before the 31st day of March, complete and accurate reports on Standard Form 100 (EEO–1) promulgated jointly by the Office of Federal Contract Compliance, the Equal Employment Opportunity Commission, and Plans for Progress, or such form as may hereafter be promulgated in its place if such prime contractor or subcontractor (i) is not exempt from the provisions of the "rules, regulations, and relevant orders of the Secretary of Labor" in accordance with 41 CFR 60–1.5; (ii) has 50 or more employees; (iii) is a prime contractor or first-tier subcontractor; and (iv) has a nonexempt contract, subcontract or purchase order "amounting to $50,000 or more" according to 41 CFR 60–1.7, or serves as a depository of Government funds, or is a financial institution which is an issuing and paying agency for U.S. savings bonds and savings notes: *Provided*, That any subcontractor below the first-tier which performs construction work at the site of construction shall be required to file such a report if it meets requirements of paragraph (a)(1) (i), (ii), and (iv) of this section.

(2) Each person required by paragraph (a)(1) of this section to submit reports shall file such a report with the Agency within 30 days after the award to him of a contract or subcontract, unless such person has submitted such a report within 12 months preceding the date of the award. Subsequent reports shall be submitted annually in accordance with paragraph (a)(1) of this section, or at such other intervals as the CCO or the Director may require. The Agency, with the approval of the Director may extend the time for filing any report.

(3) The Director, the CCO, or the applicant, on his own motion, may require a prime contractor or subcontractor to keep employment or other records and to furnish, in the form requested, within reasonable limits, such information as the Director, CCO, or the applicant deems necessary for the administration of the order.

(4) Failure to file timely, complete and accurate reports as required constitutes noncompliance with the prime contractor's or subcontractor's obligations under the equal opportunity clause and is ground for the imposition by the Agency, the Director, an applicant, prime contractor or subcontractor, of any sanctions as authorized by the Order and the rules, regulations and relevant orders of the Secretary of Labor. Any such failure shall be reported in writing to the Director by the CCO as soon as practicable after it occurs.

(b) *Requirements for bidders or prospective contractors.*—(1) *Previous reports.* Each bidder or prospective prime contractor and proposed subcontractor, where appropriate, shall state in the bid or in writing at the outset of negotiations for the contract

(i) Whether it has developed and has on file at each establishment affirmative action programs pursuant to 41 CFR Part 60–2;

(ii) Whether it has participated in any previous contract or subcontract subject to the equal opportunity clause; and

(iii) If so, whether it has filed with the Joint Reporting Committee, the Director, an agency, or the Equal Employment Opportunity Commission all reports due under the applicable filing requirements.

(2) *Additional information.* A bidder or prospective prime contractor or proposed subcontractor shall be required to submit such information as the CCO, the DCCO, or the Director requests prior to the award of the contract or subcontract. When a determination has been made to award the contract or subcontract to a specific contractor, such contractor shall be required, prior to award, or after the award, or both, to furnish such other information as the Agency, the applicant, or the Director requests.

(c) *Use of reports.* Reports filed pursuant to this section shall be used only in connection with the administration of the Order and the Civil Rights Act of 1964, or in furtherance of the purposes of the Order and said Act.

§ 8.12 *Compliance reviews.*

(a) *General.* The purpose of a compliance review is to determine if the prime contractor or subcontractor maintains nondiscriminatory hiring and employment practices and is taking affirmative action to ensure that applicants are employed and that employees are placed, trained, upgraded, promoted, and otherwise treated during employment without regard to race, color, religion, sex, or national origin. It shall consist of a comprehensive analysis and evaluation of each aspect of the aforementioned practices, policies, and conditions resulting therefrom. Where necessary, recommendations for appropriate sanctions shall be made. Where deficiencies are found to exist, reasonable efforts shall be made to secure compliance through conciliation and persuasion. Before the contractor can be found to be in compliance with the Order and these regulations, it must make a specific commitment, in writing, to correct any such deficiencies. The commitment must include the precise action to be taken and dates for completion. The time period allotted shall be no longer than the minimum period necessary to effect such changes. Upon approval of the commitment by the CCO, the ADCCO, the appropriate DCCO, or the Administrator, the contractor may be considered in compliance, on condition that the commitments are faithfully kept. The contractor shall be notified that making such commitments does not preclude future determinations of noncompliance based on a finding that the commitments are not sufficient to achieve compliance.

(b) *Regular compliance reviews.* Each DCCO shall institute a program of regular compliance reviews of those contractors and subcontractors for which he is assigned responsibility.

(c) *Special compliance reviews.* A special compliance review of bidders, applicants, offerors, contractors, or subcontractors will be conducted at the request of the CCO or the Director to determine compliance or ability to comply with the order, the rules, regulations and relevant orders of the Secretary of Labor, these rules and regulations and directives issued pursuant to each of the above.

(d) *Reports.*—(1) *Regular compliance review reports.* A report of each compliance review shall be forwarded to the CCO within 30 days after the regular review is conducted unless otherwise provided.

(2) *Special compliance review reports.* A special compliance review report shall be provided to the CCO or the Director, OFCC, as directed.

(3) *Preaward compliance review report.* A written report, including findings, of every preaward compliance review required by the rules, regulations, and relevant orders of the Secretary of Labor, or otherwise required by the Director, will be forwarded to the Director by the CCO within 10 days after the award for a post-award review.

(4) *Additional reports.* A written report of every other compliance review or any other matter processed by the Agency involving an apparent violation of the equal opportunity clause shall be submitted to the Director. Such report shall contain a brief summary of the findings, including a statement of conclusions regarding the contractor's compliance or noncompliance with the requirements of the order, and a statement of the disposition of the case, including any corrective action taken or recommended and any sanctions or penalties imposed or recommended.

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§ 8.13 Complaint procedure.

(a) *Who may file complaints.* Any interested party, including but not limited to any employee with such contractor may, by himself or by an authorized representative, file in writing a complaint of alleged discrimination in violation of the equal opportunity clause. Such complaint is to be filed not later than 180 days from the date of the alleged discrimination, unless the time for filing is extended by the CCO or the Director upon good cause shown.

(b) *Where to file.* Complaints may be filed with the Director or at any EPA Regional Office. Any EPA employee receiving a complaint shall forward the complaint directly to the CCO or his designee. The CCO shall transmit a copy of the complaint to the Director within 10 days after the receipt thereof.

(c) *Contents of complaint.* (1) The complaint should include the name, address, and telephone number of the complainant; the name and address of the prime contractor or subcontractor committing the alleged discrimination; a description of the acts considered to be discriminatory; and any other pertinent information which will assist in the investigation and resolution of the complaint. The complaint shall be signed by the complainant or his authorized representative.

(2) Where a complaint contains incomplete information, the CCO shall seek promptly the needed information from the complainant. In the event such information is not furnished to the CCO within 60 days of the date of such request, the case may be closed.

(d) *Investigations.* For each complaint filed against a prime contractor or subcontractor for which EPA is the Compliance Agency, the CCO shall institute a prompt investigation and shall be responsible for developing a complete case record. A complete case record consists of the name and address of each person interviewed and a summary of his statement, copies or summaries of pertinent documents, and a narrative summary of the evidence disclosed in the investigation as it relates to each violation revealed. When a complaint is filed against a prime contractor or subcontractor for which the Agency is not the compliance agency, the CCO shall transmit the complaint to the Director for disposition.

(e) *Resolution of complaints.* (1) If the complaint investigation by the CCO shows no violation of the equal opportunity clause, he shall so inform the Director. The Director may request further investigation by the CCO.

(2) If any complaint investigation or compliance review indicated a violation of the equal opportunity clause, the matter should be resolved by informal means whenever possible. Such informal means may include the holding of a compliance conference. Each prime contractor and subcontractor shall be advised that the resolution is subject to review by the Director, and may be disapproved if he determines that such resolution is not sufficient to achieve compliance.

(3) Where any complaint investigation or compliance review indicates a violation of the equal opportunity clause and the matter has not been resolved by informal means, the CCO with the approval of the Director shall afford the contractor an opportunity for a hearing. If the final decision reached in accordance with the provisions of 41 CFR 60-1.26 is that a violation of the equal opportunity clause has taken place, the CCO with the approval of the Director, may cause the cancellation, termination, or suspension of any contract or subcontract, cause a contractor to be debarred from further contracts or subcontracts, or may impose such other sanctions as are authorized by the order.

(4) When a prime contractor or subcontractor, without a hearing, shall have complied with the recommendations or orders of the CCO or the Director and believes such recommendations or orders to be erroneous, he shall, upon filing a request therefor within 10 days of such compliance, be afforded an opportunity for a hearing and review of the alleged erroneous action by the CCO or the Director.

(5) For reasonable cause shown, the CCO may reconsider or cause to be reconsidered any matter on his own motion or pursuant to a request.

(f) *Report to the Director.* Within 60 days from receipt of a complaint involving a matter for which the Agency is the Compliance Agency or within such additional time as may be allowed by the Director for good cause shown, the CCO shall process the complaint and submit to the Director the case record and a summary report containing the following information:

(1) Name and address of the complainant.

(2) Brief summary of findings, including a statement as the CCO's conclusions regarding the contractor's compliance or noncompliance with the requirements of the equal opportunity clause.

(3) A statement of the disposition of the case, including any corrective action taken and sanctions or penalties imposed or, whenever appropriate, the recommended corrective action and sanctions or penalties.

§ 8.14 Hearings and sanctions.

(a) The Administrator with the approval of the Director may convene formal or informal hearings as he may deem appropriate for inquiring into the status of compliance by any prime contractor or subcontractor with the terms of the equal opportunity clause.

(b) The Administrator may propose or apply sanctions in the event of noncompliance by a contractor or subcontractor with the requirements of the equal opportunity clause, subject to the limitations of the rules, regulations and relevant orders of the Secretary of Labor, particularly 41 CFR 60-1.27, and of the rules and regulations of the Agency.

(c) The conduct of hearings and the proposal and application of sanctions shall be in accordance with the requirements of the order and of the rules and regulations of the Agency.

§ 8.15 Intimidation and interference.

The sanctions and penalties contained in Subpart D of the order may be exercised by the CCO or the Director against any prime contractor, subcontractor or applicant who fails to take all necessary steps to insure that no person intimidates, threatens, coerces, or discriminates against any individual for the purpose of interfering with the filing of a complaint, furnishing information, or assisting or participating in any manner in an investigation, compliance review, hearing, or any other activity related to the administration of the order or any other Federal, State, or local laws requiring equal employment opportunity.

§ 8.16 Segregated facilities certificate.

Prior to the award of any nonexempt Government contract or subcontract or federally assisted construction contract or subcontract, the Agency or the Applicant shall require the prospective prime contractor, and each prime contractor and subcontractor shall require each subcontractor to submit a certification, in the form approved by the Director, that the prospective prime contractor or subcontractor does not and will not maintain any facilities he provides for his employees in a segregated manner, or permit his employees to perform their services at any location under his control where segregated facilities are maintained; and that he will obtain a similar certification in the form approved by the Director, prior to the award of any nonexempt subcontract.

§ 8.17 Solicitations or advertisements for employees.

In solicitations or advertisements for employees placed by or on behalf of a prime contractor or subcontractor, the requirements of paragraph (3) of the equal opportunity clause shall be satisfied whenever the prime contractor or subcontractor complies with any of the following:

(a) States expressly in the solicitations or advertising that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex or national origin;

(b) Uses display or other advertising, and the advertising includes an appropriate insignia prescribed by the Director. The use of the insignia is considered subject to the provisions of 18 U.S.C. 701;

(c) Uses a single advertisement, and the advertisement is grouped with other advertisements under a caption which clearly states that all employers in the group assure all qualified applicants equal consideration for employment without regard to race, color, religion, sex, or national origin;

(d) Uses a single advertisement in which appears in clearly distinguishable type the phrase "an equal opportunity employer."

§ 8.18 Access to records of employment.

Each prime contractor and subcontractor shall permit access during normal business hours to his books, records, and accounts pertinent to compliance with the order and all rules and regulations

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promulgated pursuant thereto, by the Agency or the Director for purposes of investigation to ascertain compliance with the equal opportunity clause of the contract or subcontract. Information obtained in this manner shall be used only in connection with the administration of the Civil Rights Act of 1964, and in furtherance of the purposes of the order and that Act.

§ 8.19 Notices to be posted.

Contractors and subcontractors required to do so by paragraphs (1) and (3) of the equal opportunity clause shall post notices to be provided by the CCO. Such notices shall be in compliance with the requirements of 41 CFR 60–1.42.

§ 8.20 Program directives and instructions.

Appropriate program officials may issue such directives, procedures, and instructions as they consider necessary to achieve equal employment opportunity in programs administered by them, provided such issuances are not inconsistent with the provisions of the order, the rules, regulations, and relevant orders of the Secretary of Labor or the Director, or with these regulations. A copy of such directives, procedures, and instructions shall be submitted to the CCO for approval prior to issuance.

Subpart B—Compliance Hearing and Appeal Procedures

General

§ 8.31 Authority.

These rules of procedure supplement, and are established pursuant to, the provisions of 41 CFR 60–1.26(b).

§ 8.32 Scope of rules.

These rules govern the practice and procedure for proceedings conducted by the Agency to decide whether to impose sanctions on a respondent under sections 209(a)(1), (5), and (6) of the Executive Order, for violations of the Executive Order and rules, regulations, and orders thereunder.

§ 8.33 Definitions.

Except as otherwise indicated by the context in which it appears in these regulations, the term:

(a) "Agency" means the Environmental Protection Agency.

(b) "Administrator" means the Administrator of the Environmental Protection Agency.

(c) "Director" means the Director of the Office of Civil Rights and Urban Affairs.

(d) "Executive Order" means Executive Order 11246, 30 FR 12319, as amended.

(e) "Hearing" means a hearing conducted as specified in this subpart to enable the Agency to decide whether to impose sanctions on a respondent for violations of the Executive Order and rules, regulations, and orders thereunder.

(f) "Hearing examiner" means a hearing examiner appointed by the Assistant Administrator for Enforcement and General Counsel.

(g) "Notice" means a notice of hearing.

(h) "Office of Civil Rights" means the Office of Civil Rights and Urban Affairs in the Agency.

(i) "Office of Federal Contract Compliance" means the Office of Federal Contract Compliance, U.S. Department of Labor.

(j) "Office of the Assistant Administrator for Enforcement and General Counsel," means the Office of the Assistant Administrator for Enforcement and General Counsel in the Agency.

(k) "Party" means a respondent; the Director; and any person or organization participating in a proceeding pursuant to section 8.

(l) "Person" means any natural person, corporation, partnership, unincorporated association, State or local government, and any agency, instrumentality or subdivision of such a government.

(m) "Respondent" means a person against whom sanctions are proposed because of alleged violations of the Executive Order and rules, regulations, and orders thereunder.

§ 8.34 Time computation.

Except as otherwise provided by law, in computing any period of time under these rules or in an order issued hereunder, the time begins with the day following the act or event, which starts the period running, and includes the last day of the period, unless it is a Saturday, Sunday, Federal legal holiday, or other nonbusiness day, in which event it includes the next following day which is not a Saturday, Sunday, Federal legal holiday, or other nonbusiness day. When the period of time to be computed is 7 days or less, intermediate Saturdays, Sundays, Federal legal holidays and other nonbusiness days shall be excluded in the computation. In all other cases such days shall be included in the computation.

Designation and Responsibilities of Hearing Examiner

§ 8.35 Designation.

Each hearing shall be held before a hearing examiner designated by the Assistant Administrator for Enforcement and General Counsel.

§ 8.36 Authority and responsibilities.

(a) The hearing examiner shall have all powers necessary to preside over the parties and the proceedings, conduct the hearing and enter recommend findings and conclusions and a recommended determination. His powers shall include, but not be limited to, the power to:

(1) Hold conferences to settle, simplify, or fix the issues involved, or to consider other matters that may aid in the expeditious disposition of the proceedings.

(2) Require parties at any point in the proceedings to state their position with respect to the various issues involved.

(3) Establish rules for media coverage of the proceedings.

(4) Rule on motions and other procedural items.

(5) Regulate the course of the hearing, the conduct of counsel, parties, witnesses and other participants.

(6) Administer oaths and affirmations, call witnesses on his own motion, examine witnesses and direct witnesses to testify.

(7) Receive, rule on, exclude or limit evidence.

(8) Fix time limits for submission of written documents in matters before him.

(9) Take any action authorized by these regulations or the provisions of applicable law.

(b) The hearing examiner shall recommend findings of fact, conclusions of law and a determination of the issues on the basis of the record before him to the Assistant Administrator for Enforcement and General Counsel.

Appearance and Practice

§ 8.37 Participation by a party.

Subject to the provisions contained in Part 8.38 of this subtitle, a party may appear in person, by representative, or by counsel, and participate fully in any proceeding held under these regulations.

§ 8.38 Determination of parties.

(a) The respondent and the Director shall be the initial parties to any proceeding. To the extent that proceedings hereunder are based in whole or in part on matters subject to a collective bargaining agreement, any labor organization which is signatory to such agreement shall also have the right to participate as a party.

(b) Other persons may at the discretion of the hearing examiner or of the Assistant Administrator for Enforcement and General Counsel be granted the right to participate as parties if he determines that the final decision could directly and adversely affect them or the class they represent, and that they may contribute materially to the disposition of the proceedings.

(c) Any person wishing to participate as a party under paragraph (b) of this section in any hearing shall submit a petition to the hearing examiner within 15 days after the notice of such hearing has been served. The petition should be filed with the hearing examiner and served on Respondent, on the Director, and on any other person who is a party at the time of filing. Such petition shall concisely state: (1) Petitioner's interest in the proceeding, (2) how his participation as a party will contribute materially to the disposition of the proceeding, (3) who will appear for petitioner, (4) the issues on which petitioner wishes to participate, and (5) whether petitioner intends to present witnesses.

(d) The hearing examiner shall promptly ascertain whether there are objections to the petition. He shall then determine whether the petitioner is qualified in his judgment to be a party in the proceedings, as defined in paragraph (b) of this section, and shall permit or deny participation accordingly. Where petitions to participate as parties are made by individuals or groups with common interests, the hearing examiner may request all such petitioners to designate

a single representative, or he may recognize one or more of such petitioners to represent all such petitioners; provided that the representative of a labor organization qualified to participate under paragraph (a) of this section shall be permitted to participate as a party. The hearing examiner shall give each such petitioner written notice of the decision on his petition. If the petition is denied, he shall briefly state the grounds for denial and shall then treat the petition as a request for participation as amicus curiae. The hearing examiner shall give written notice to each party of each petition granted.

(e) Persons whose petition for party participation is denied may appeal the decision to the Assistant Administrator for Enforcement and General Counsel within 7 days of receipt of notice of denial. The Assistant Administrator for Enforcement and General Counsel will make the final decision for the Agency to grant or deny the petition.

§ 8.39 Determination and participation of amici.

(a) Any interested person wishing to participate as amicus curiae in the proceeding shall file a petition before the commencement of the hearing. Such petition shall concisely state the petitioner's interest in the hearing and who will represent petitioner.

(b) The hearing examiner may grant the petition if he finds that the petitioner has an interest in the proceedings and may contribute materially to the disposition of the proceedings. The hearing examiner shall give the petitioner written notice of the decision on his petition.

(c) An amicus curiae is not a party and may only participate as provided in paragraph (d) of this section.

(d) An amicus curiae may submit a written statement of position to the hearing examiner at any time prior to the beginning of a hearing, and shall serve a copy on each party. He may also file a brief or written statement at such time as the parties submit proposed findings and conclusions and supporting briefs to the hearing examiner and at such time as the parties file exceptions to the recommended determination of the hearing examiner.

FORM AND FILING OF DOCUMENTS

§ 8.40 Form.

Documents filed in a proceeding subject to this Part shall show the docket description and title of the proceeding, the party or amicus submitting the document, the date signed, and the title, if any, and address of the signatory. The original will be signed in ink by the party representing the party or amicus. Copies need not be signed, but the name of the person signing the original shall be reproduced.

§ 8.41 Filing and service.

(a) Copies of all documents submitted in a proceeding shall be served on all parties including amicii, and in addition the original and two copies of each document shall be submitted for filing with the hearing examiner at the address stated in the notice. With respect to exhibits and transcripts of testimony, only originals need be filed.

(b) Service upon a party or amicus shall be made by delivering one copy of each document requiring service in person or by certified mail, return receipt requested, properly addressed with postage prepaid, to the party or amicus or his attorney or designated representative. Filing will be made in person or by certified mail, return receipt requested, to the hearing examiner, at the address stated in the notice of scheduled hearing.

(c) The date of filing or of service of a document shall be the day when the document is deposited in the United States mail or is delivered in person.

§ 8.42 Certificate of service.

The original of every document filed and required to be served upon parties shall be endorsed with a certificate of service signed by the party or amicus curiae making service or by his attorney or representative, stating that such service has been made, the date of service, and the manner of service.

PROCEDURES

§ 8.43 Notice of hearing.

Whenever a respondent requests a hearing, the Director shall serve on the Respondent, as required by 41 CFR 60-1.26(b), a notice of hearing by registered mail, return receipt requested, to Respondent's last known address. Such notice shall contain the time and place of the hearing; a statement or citation of the legal authority under which the proceedings are to be held; and a concise statement of the facts which are thought to justify the sanctions or other actions proposed.

§ 8.44 Answer to notice.

Within 15 days after receipt of the notice of hearing, Respondent shall file an answer. This answer shall admit or deny specifically and in detail matters set forth in each allegation of the notice unless Respondent is without knowledge sufficient to enable him to so admit or deny, in which case his answer should so state, and the statement shall be deemed a denial. Matters not specifically denied shall be deemed admitted. Matters alleged in the answer as affirmative defenses shall be separately stated and numbered. Failure of Respondent to file an answer within the 15-day period following receipt of the notice may be deemed an admission to all facts recited in the notice.

§ 8.45 Amendments.

The Director may amend his notice once as a matter of course before an answer is filed, and Respondent may amend its answer once as a matter of course not later than 15 days after it is filed. Other amendments of the notice or of the answer to the notice shall be made only by leave of the hearing examiner. An amended notice shall be answered within 10 days of its service, or within the time for filing an answer to the original notice, whichever period is longer.

§ 8.46 Motions.

Motions and petitions shall state the relief sought, the basis for relief and the authority relied upon. If made before or after the hearing itself, they shall be in writing. If made at the hearing, they may be stated orally; but the hearing examiner may require that they be reduced to writing and filed and served on all parties. Within 5 days after a written motion or petition is served on a party, that party may file a response. An immediate oral response may be made to an oral motion. Oral argument on motions will be at the discretion of the hearing examiner.

§ 8.47 Disposition of motions.

The hearing examiner may not grant a written motion or petition prior to expiration of the time for filing responses thereto, but may overrule or deny such motion or petition without awaiting response: *Provided, however*, That prehearing conferences, hearings, and decisions need not be delayed pending disposition of motions or petitions. Oral motions and petitions may be ruled on immediately.

§ 8.48 Interlocutory appeals.

No interlocutory appeals will be permitted from an adverse ruling except as specifically provided in these rules.

§ 8.49 Exhibits.

Proposed exhibits shall be exchanged at the prehearing conference, or otherwise prior to the hearing, if the hearing examiner so directs. If the hearing examiner directs an exchange, proposed exhibits not so exchanged may be denied admission as evidence. The authenticity of all exhibits submitted prior to the hearing under direction of the hearing examiner, will be deemed admitted unless written objection thereto is filed and served on all parties at least fifteen (15) days prior to the date of the hearing, or unless good cause is shown for failure to file such written objection.

§ 8.50 Admissions as to facts and documents.

Not later than 25 days prior to the date of the hearing any party may serve upon an opposing party a written request for the admission of the genuineness and authenticity of any relevant documents described in, and exhibited with, the request, or for the admission of the truth of any relevant matters of fact stated in the request. Each matter as to which an admission is requested shall be deemed admitted unless within a period of 20 days the party to whom the request is directed serves upon the requesting party a statement either (a) denying specifically the matters as to which an admission is requested, or (b) setting forth in detail the reasons why he cannot truthfully either admit or deny such matters.

§ 8.51 Discovery.

(a) *Methods.* Parties may obtain discovery as provided in these rules by deposition, written interrogatories, production of documents or other items; or by permission to enter property for inspection and other purposes.

(b) *Scope.* Parties may obtain discovery regarding any matter, not privileged, which is relevant to the subject matter involved in the hearing.

(c) *Protective orders.* Upon motion by a party or by the person from whom discovery is sought, and for good cause shown, the hearing examiner may make any order which justice requires to limit or condition discovery in order to protect a party or person from annoyance, embarrassment, oppression, or undue burden or expense.

(d) *Sequence and timing.* Methods of discovery may be used in any sequence. The fact that a party is conducting discovery shall not operate to delay any other party's discovery.

(e) *Time limit.* Discovery by all parties will be completed within such time as the examiner directs from the date the notice of hearing is served on Respondent.

§ 8.52 Depositions.

(a) A party may take the testimony of any person, including a party, by deposition upon oral examination. This may be done by stipulation or by notice, as set forth in paragraph (b) of this section. On motion of any party or other person upon whom the notice is served, the hearing examiner may for cause shown enlarge or shorten the time for the deposition, change the place of the deposition, limit the scope of the deposition or quash the notice. Depositions of persons other than parties or their representatives shall be upon consent of the deponent.

(b)(1) The party taking a deposition will give reasonable notice in writing to every other party of the time and place for taking depositions, the name and address of each person to be examined, if known, or, if the name and address of any such person are not known, a general description sufficient to identify him or the particular class or group to which he belongs.

(2) The notice to a deponent may be accompanied by a request for the production of documents and tangible things at the taking of the deposition.

(3) A party may name as the deponent a corporation, partnership, association, or governmental agency and may designate a particular person within the organization whose testimony is desired and the matters on which examination is requested. If no particular person is named, the organization shall designate one or more agents to testify on its behalf, and may set forth the matters on which each will testify. The persons so designated shall testify as to matters known or reasonably available to the organization.

(c) Examination and cross-examination of witnesses shall proceed as would be permitted at the hearing. Each witness shall be placed under oath by a disinterested person qualified to administer oaths by the laws of the United States or of the place where the examination is held, and the testimony taken by such person shall be recorded verbatim.

(d) During the taking of a deposition a party or deponent may request suspension of the deposition on grounds of bad faith in the conduct of the examination, annoyance, embarrassment, oppression of deponent or party or improper questions propounded. The deposition will then be adjourned. However, the objecting party or deponent must immediately move the hearing examiner for a ruling on such objections. The hearing examiner may then limit the scope or manner of the taking of the deposition.

(e) The officer shall certify the deposition and promptly file it with the hearing examiner. The originals or true copies of documents and other items produced for inspection during the examination of the witness shall, upon the request of a party, be marked for identification and annexed to the deposition as a part thereof.

(f) The party taking the deposition shall give prompt notice of its filing to all other parties.

§ 8.53 Use of depositions at hearing.

(a) Any part or all of a deposition, so far as the statements or other matter in it would be admissible if the deponent were present and testifying in person at the hearing, may be used as follows against any party who was present or represented at the taking of the deposition or who had reasonable notice thereof:

(1) Any deposition may be used for contradiction or impeachment of the deponent as a witness.

(2) The deposition of a party, or of an agent designated by a party to testify on his behalf, may be used by an adverse party for any purpose.

(3) The deposition of any witness may be used for any purpose if the witness is dead; or if the witness is at greater distance than 100 miles from the place of hearing, or is out of the United States, unless it appears that the absence of the witness was procured by the party offering the deposition; or if the witness is unable to attend or testify because of age, illness, infirmity, or imprisonment; or, upon application and notice, that such exceptional circumstances exist as to make it desirable, in the interest of justice and with due regard to the importance of presenting the testimony of witness orally in open hearing, to allow the deposition to be used.

(b) If only part of a deposition is offered in evidence, the remainder becomes subject to introduction by any party.

(c) Objection may be made at the hearing to receiving in evidence any deposition or part thereof for any reason which would require the exclusion of the evidence if the witness were then present and testifying.

§ 8.54 Interrogatories to parties.

(a) Any party may serve upon any other party written interrogatories after the notice of hearing has been filed.

(b) Each interrogatory shall be answered separately and fully in writing under oath, unless it is objected to, in which event the objection shall be stated in lieu of an answer. The answers are to be signed by the person making them, and the objections signed by the attorney or other representative making them. Answers and objections shall be made within 30 days after the service of the interrogatories. The party submitting the interrogatories may move for an order under Sec. 28(a)(1) with respect to any objection to or other failure to answer an interrogatory.

(c) Interrogatories may relate to any matter not privileged which is relevant to the subject matter of the hearing.

§ 8.55 Production of documents and things and entry upon land for inspection and other purposes.

(a) After the notice of hearing has been filed, any party may serve on any other party a request to produce and permit the party, or someone acting on his behalf, to inspect and copy any designated documents, phonorecords, or other data compilations from which information can be obtained and which are in the possession, custody, or control of the party upon whom the request is served. If necessary, translation of data compilations shall be done by the party furnishing the information.

(b) After the notice of hearing has been filed, any party may serve on any other party a request to permit entry upon designated property in the possession or control of the latter party for the purpose of inspection, measuring, surveying or photographing, testing, or sampling the property or any designated object.

(c) Each request shall set forth with reasonable particularity the items to be inspected and shall specify a reasonable time, place, and manner of making the inspection and performing the related acts.

(d) The party upon whom the request is served shall respond within 15 days after the service of the request. The response shall state, with respect to each item, that inspection and related activities will be permitted as requested, unless there are objections in which case the reason for each objection shall be stated. The party submitting the request may move for an order under section 28(a)(1) with respect to any objection or other failure to respond.

§ 8.56 Sanctions.

(a) A party, upon reasonable notice to other parties, may move for an order as follows:

(1) If a deponent fails to answer a question propounded or submitted under section 22(c) or a corporation or other entity fails to make a designation under section 22(b)(3), or a party fails to answer an interrogatory submitted under section 24, or if a party, under section 25, fails to respond that inspection will be permitted or fails to permit inspection, the discovering party may move for an order compelling an answer, a designation, or inspection.

(2) An evasive or incomplete answer is to be treated as a failure to answer.

(b) If a party or an agent designated to testify fails to obey an order to permit discovery, the hearing examiner may make such orders as are just, including:

(1) That the matters regarding which the order was made or any other designated facts shall be established in accordance with the claim of the party obtaining the order;

(2) Refusing to allow the disobedient party to support or oppose designated claims or defenses, or prohibiting him from introducing designated matters in evidence.

(c) If a party or an agent designated to testify fails after proper service (1) to appear for his deposition, (2) to serve answers or objections to interrogatories submitted under section 24, or (3) to serve a written response to a request for inspection, submitted under section 25, the hearing examiner on motion may make such orders as are just, including those authorized under paragraphs (b) (1) and (2) of this section.

§ 8.57 Ex parte communications.

(a) Written or oral communications involving any substantive or procedural issue in a matter subject to these rules, directed to the hearing examiner, the Director; the Director, Office of Federal Contract Compliance; or the Assistant Administrator for Enforcement and General Counsel, shall be deemed ex parte communications and are not to be considered part of any record or the basis for any official decision, unless the communication is made by motion pursuant to these rules.

(b) The hearing examiner shall not consult any person, or party, on any fact in issue or on the merits of any matter before him except upon notice and opportunity for all parties to participate.

(c) No employee or agent of the Federal Government engaged in the investigation and prosecution of a proceeding governed by these rules shall participate or advise in the rendering of the recommended or final decision, except as witness or counsel in the proceeding.

PREHEARING

§ 8.58 Prehearing conferences.

(a) Within 15 days after the answer has been filed, the hearing examiner will establish a prehearing conference date for all parties including persons whose petition requesting party status has not been ruled upon. Written notice of the prehearing conference shall be sent by the hearing examiner.

(b) At the prehearing conference the following matters, among others, shall be considered: (1) Simplification and delineation of the issues to be heard; (2) stipulations; (3) limitation of number of witnesses and exchange of witness lists; (4) procedure applicable to the proceeding; (5) offers of settlement; and (6) scheduling of the dates for exchange of exhibits. Additional prehearing conferences may be scheduled at the discretion of the hearing examiner, upon his own motion or the motion of a party.

HEARING

§ 8.59 Appearances.

In the event that a party appears at the hearing and no party appears for the opposing side, the party who is present shall either present all his evidence or shall present such portion thereof as is sufficient to make a prima facie case before the hearing examiner. Failure to appear at a hearing shall be deemed to be a waiver of the right to be served with a copy of the hearing examiner's proposed decision and to file exceptions to it.

§ 8.60 Purpose.

(a) The hearing is directed primarily to receiving factual evidence and expert opinion testimony related to the issues in the proceeding. A hearing will be held in order to determine whether Respondent has failed to comply with one or more applicable requirements of the Executive Order, and rules, regulations, and orders thereunder. However, this shall not prevent the parties from entering into a stipulation of the facts.

(b) If all facts are stipulated, the proceedings shall go to conclusion in accordance with §§ 8.68–8.73.

§ 8.61 Evidence.

Formal rules of evidence will not apply to the proceeding. Irrelevant, immaterial, unreliable, and unduly repetitious evidence will be excluded from the record of a hearing. Hearsay evidence shall not be inadmissible as such.

§ 8.62 Official notice.

Whenever a party offers a document, or part thereof, in evidence, and such document, or part thereof, has been shown by the offeror to be reasonably available to the public, such document need not be produced or marked for identification, but may be offered for official notice as a public document item by specifying the document or relevant part thereof. Official notice may also be taken of other matters, at the discretion of the hearing examiner.

§ 8.63 Testimony.

Testimony shall be given under oath by witnesses at the hearing. All witnesses shall be subject to cross-examination, and at the discretion of the hearing examiner, may be cross-examined without regard to the scope of direct examination as to any matter which is material to the proceeding.

§ 8.64 Objections.

Objections to evidence shall be timely, and the party making them shall briefly state the ground relied upon.

§ 8.65 Exceptions.

Exceptions to rulings of the hearing examiner are unnecessary. It is sufficient that a party, at the time the ruling of the hearing examiner is sought, makes known the action which he desires the hearing examiner to take, or his objection to an action taken, and his ground therefor.

§ 8.66 Offer of proof.

An offer of proof made in connection with an objection taken to any ruling of the hearing examiner excluding proffered oral testimony shall consist of a statement of the substance of the evidence which counsel contends would be adduced by such testimony. If the excluded evidence consists of evidence in written form or consists of reference to documents, a copy of such evidence shall be marked for identification and shall accompany the record as the offer of proof.

§ 8.67 Official transcript.

An official reporter will be designated for all hearings. The official transcripts taken of testimony and argument, together with exhibits, briefs, or memoranda of law filed therewith, shall be filed with the hearing examiner. Transcripts may be obtained by the parties and the public from the official at rates not to exceed the applicable rates fixed by the contract with the reporter. Upon notice to all parties, the hearing examiner may authorize such corrections to the transcript as are necessary to accurately reflect the testimony.

POSTHEARING PROCEDURES

§ 8.68 Proposed findings of fact or conclusions of law.

Within 30 days after the close of the hearing each party may file or the hearing examiner may request, proposed findings of fact and conclusions of law together with supporting briefs. Such proposals and briefs shall be served on all parties and amici. Reply briefs may be submitted within 15 days after receipt of the initial proposals and briefs. Reply briefs should be filed and served on all parties and amici.

§ 8.69 Record for decision.

The hearing examiner will make his recommended findings, conclusions, and recommended decision upon the basis of the record before him. The transcript of testimony, exhibits, and all papers, documents, and requests filed in the proceedings except the correspondence section of the docket, shall constitute the record.

§ 8.70 Recommended determination.

The hearing examiner shall, in an expeditious manner, rule on proposed findings and conclusions submitted by the parties and shall make recommended findings, conclusions, and decision. These rulings and recommendations shall be certified, together with the record for decision, to the Assistant Administrator for Enforcement and General Counsel for his decision. The rulings, recommended findings, conclusions and decision of the hearing examiner shall be served on all parties and amici curiae to the proceedings.

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II. 6

federal register

FRIDAY, SEPTEMBER 13, 1974
WASHINGTON, D.C.

Volume 39 ■ Number 179

Pages 32975–33195

PART I

SEX DISCRIMINATION—EPA requires equal opportunity in programs funded under Water Pollution Act; effective 10–15–74 32989

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Title 40—Protection of Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

SUBCHAPTER A—GENERAL

[FRL 269-2]

PART 12—NONDISCRIMINATION IN PROGRAMS RECEIVING ASSISTANCE FROM THE ENVIRONMENTAL PROTECTION AGENCY—EFFECTUATION OF SECTION 13 OF THE FEDERAL WATER POLLUTION CONTROL ACT AMENDMENTS OF 1972

On June 12, 1973, notice was published in the FEDERAL REGISTER (38 FR 15457) that the Environmental Protection Agency was proposing policies and procedures implementing section 13 of the Federal Water Pollution Control Act Amendments of 1972 (86 Stat. 816) which prohibits discrimination on account of sex under any program or activity receiving assistance from the Environmental Protection Agency under the Federal Water Pollution Control Act (86 Stat. 816) or the Environmental Financing Act (86 Stat. 899). These regulations, on adoption, will be published as a new Part 12 in Chapter I of Title 40 of the Code of Federal Regulations.

Written data, views, or comments on the proposed rulemaking were invited and received from interested parties. All written comments are on file with the Agency. The Environmental Protection Agency has carefully considered all submitted comments. Certain of these comments have been adopted or substantially satisfied by editorial changes, deletions from, or additions to, the regulations. The comments received and actions taken with respect to them are described below.

(1) Comment was received recommending that § 12.3 of the proposed regulations be revised to make them applicable to any program to which money was paid, property transferred, or other assistance extended after enactment of the Federal Water Pollution Control Act Amendments of 1972. (The proposed regulations had excluded all such programs from coverage if the assistance had been extended to them prior to the effective date of the regulations.)

The recommendation of this comment has been accepted. The regulations have been revised to make it clear that the bar to discrimination on account of sex which is prescribed by section 13 of the Act became applicable to all programs under the Federal Water Pollution Control Act, as amended, on October 18, 1972, the date of enactment of the 1972 Amendments to the Act. However, procedures applicable to the recipient of Federal assistance and instituted to implement this part shall be applicable only to Federal assistance awarded or extended on or after the effective date of this part.

(2) Comment was received recommending that § 12.3(1) of our proposed regulations—which excluded programs of insurance and guarantee from the coverage of section 13 of the Act—be revised to include such coverage.

The recommendation accompanying this comment was adopted and § 12.3(1) of the regulations has been rewritten to include such coverage.

(3) Comment was received that the proposed regulations unnecessarily excluded coverage of employment (except where employment is the principal purpose of the program being assisted). It was noted that the proposed regulations were prepared under the direction of the statute that section 13 be enforced through Agency rules similar to those already established with respect to racial and other discrimination under Title VI of the Civil Rights Act of 1964, but it was argued that section 13 did not have the specific restraints on employment coverage that Title VI contained, so that implementing regulations for section 13 need not include the restrictions on employment coverage contained in the Agency's Title VI regulations.

The recommendations of this comment for revision of the proposed regulations were not adopted. The Agency proposes to administer its section 13 regulations in tandem with its Title VI regulations, pursuant to section 13. In these circumstances, it was considerd both necessary and desirable to have the coverage of the two regulations co-extensive rather than in variance on a principal point of coverage.

(4) Comment was received that the general "affirmative action" language of § 12.5(b) of the proposed regulations was insufficient and a more detailed provision was recommended patterned after Order No. 4 of the Office of Federal Contract Compliance, Department of Labor. These recommendations set forth in this comment were not adopted. The language of § 12.5(b) as set forth in the proposed regulations was considered sufficient for the coverage intended at this time.

(5) Several organizations commented that § 12.8(b) of the proposed regulations appeared unclear on the point whether third party complaints could be allowed if the complaint did not include a named grievant in the charge. They recommended revision of § 12.8(b) to make it clear that such complaints would be allowable.

The section as originally drafted was intended to allow third party complaints that did not include named grievants in the charge, and the Agency believes that the initial language permits this allowance so long as the complaint is adequately specific. Accordingly, no change in § 12.8(b) of the proposed regulations was made.

(6) Comment was received which noted that § 12.10 authorized hearings for recipients or applicants wishing to appeal a finding of discrimination on account of sex, but does not authorize appeals by complainants who disagree with a contrary Agency finding. It was recommended that appeal rights also be granted complainants who disagree with Agency findings of no discrimination.

This recommendation was not adopted. As earlier stated, section 13 will be administered co-extensively as far as practicable with the Agency's Title VI regulations. The Title VI regulations do not contain such appeal rights. Thus, no change was made in the final section 13 regulations because it was not considered desirable to create a divergence between the two regulations on this principal point.

(7) Comment was received recommending that § 12.6(c) of the proposed regulations be amended to provide that assurances of compliance received with applications for Federal financial assistance to institutions of higher education be referred to the Department of Health, Education and Welfare for clearance to avoid duplication or conflict of compliance efforts. This recommendation was not adopted. The language of the section as written was considered broad enough to allow referrals if subsequent circumstances warranted. EPA intends to administer this part in a manner which will preclude conflict with HEW requirements under Title IX of the Education Amendments of 1972, where recipients are covered under both the HEW and EPA sex discrimination programs, insofar as possible.

Effective date. The regulations of this Part 12 shall become effective on October 15, 1974.

Dated: September 6, 1974.

JOHN QUARLES,
Acting Administrator.

Sec.

12.1 Purpose.
12.2 Definitions.
12.3 Applicability.
12.4 Discrimination prohibited.
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12.7 Compliance information.
12.8 Investigations.
12.9 Procedure for obtaining compliance.
12.10 Hearings.
12.11 Decisions and notices.
12.12 Effect on other regulations, forms, and instructions.

AUTHORITY: Sec. 13, Federal Water Pollution Control Act Amendments of 1972.

§ 12.1 Purpose.

The purpose of this part is to effectuate section 13 of the Federal Water Pollution Control Act Amendments of 1972 (hereinafter referred to as the Act) to the end that no person in the United States shall on the ground of sex be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving financial assistance from the Environmental Protection Agency under the Federal Water Pollution Control Act Amendments of 1972.

§ 12.2 Definitions.

Unless the context requires otherwise, as used in this part the term:

(a) "Administrator" means the Administrator of the Environmental Protection Agency or, except in § 12.11(e), any other Agency official who by delegation may exercise the Administrator's authority.

(b) "Agency" means the Environmental Protection Agency and includes each and all of its organizational components.

(c) "Applicant" means one who submits an application, subagreement, request, plan, or any other document required to be approved by the Administrator, or by a primary recipient, as a condition to eligibility for Federal financial assistance, and "application" means such an application, subagreement, request, plan, or any other such document.

(d) "Facility" includes all or any part of structures, equipment, or other real or personal property or interests therein, and the term "provision of facilities" includes the construction, expansion, renovation, remodeling, alteration or acquisition of facilities.

(e) "Federal financial assistance" includes:

(1) Grants, loans, and advances of Federal funds;

(2) The grant or donation of Federal property and interests in property;

(3) The detail of Federal personnel;

(4) The sale or lease of, or the permission to use (on other than a casual or transient basis), Federal property or any interest in such property without consideration, or for less than adequate consideration, for the purpose of assisting the recipient, or in recognition of the public interest to be served by such a sale or lease to the recipient; and

(5) Any Federal agreement, arrangement, or other contract which has as one of its purposes the provision of assistance.

(f) "Primary recipient" means any recipient which is authorized or required to extend Federal financial assistance to another recipient for the purpose of carrying out a program for which it receives Federal financial assistance.

(g) "Program" includes any program, project, or activity for the provision of services, financial assistance, or other benefits to individuals (including education or training, health, welfare, housing, rehabilitation, or other services, whether provided through employees of the recipient of Feedral financial assistance or provided by others through contracts or other arrangements with the recipient and including work opportunities or other assistance to individuals), or for the provisions of facilities for furnishing services, financial assistance, or other benefits to individuals. The services, financial assistance, or other benefits provided under a program receiving Federal financial assistance shall be deemed to include (1) any services, financial assistance, or other benefits provided with the aid of Federal financial assistance or with the aid of any non-federal funds, property, or other resources required to be expended or made available for the program to meet matching requirements or other conditions which must be met in order to receive the Federal financial assistance, and (2) any services, financial assistance, or other benefits provided in or through a facility provided with the aid of Federal financial assistance or such non-federal resources.

(h) "Recipient" means any State, or any political subdivision or instrumentality thereof, any public or private agency, institution, organization, or other entity, or any individual, in any State to which or whom Federal financial assistance is extended, directly or through another recipient, for any program, or who otherwise participates in carrying out such program, including any successor, assignee, or transferee thereof, but such term does not include any ultimate beneficiary under any such program.

(i) "State" means a State, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Trust Territory of the Pacific Islands.

§ 12.3 Applicability.

This part applies to any program administered by the Agency for which Federal financial assistance is authorized under the Act. This part does not apply to: (a) Any assistance to any individual who is the ultimate beneficiary under any such program, or (b) any employment practice under any such program of any employer, employment agency, or labor organization, except as provided in § 12.4(c).

§ 12.4 Discrimination prohibited.

(a) *General.* No person in the United States shall on the ground of sex be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity to which this part applies.

(b) *Specific discriminatory actions prohibited.* (1) A recipient under any program or activity to which this part applies may not, directly or indirectly, on the ground of sex:

(i) Deny a person any service, financial assistance, or other benefit provided under the program;

(ii) Provide to a person any service, financial assistance, or other benefit which is different, or is provided in a different manner, from that provided to others under the program;

(iii) Subject a person to segregation or separate treatment in any matter related to such person's receipt of any service, financial assistance, or other benefit under the program;

(iv) Restrict a person in any way in the enjoyment of any advantage or privilege enjoyed by others receiving any service, financial assistance, or other benefit under the program;

(v) Treat a person differently from others in determining whether such person satisfies any admission, enrollment, quota, eligibility, membership, or other requirement or condition which persons must meet in order to be provided any service, financial assistance, or other benefit provided under the program;

(vi) Deny a person an opportunity to participate in the program through the provisions of services (or otherwise) or afford a person an opportunity to participate in a manner different from that afforded others; or

(vii) Deny a person the opportunity to participate as a member of any planning or advisory body which is an integral part of the program.

(2) A recipient in determining the types of services, financial assistance, or other benefits or facilities which will be provided under any such program or the class of persons to whom, or the situations in which, such services, financial assistance, other benefits, or facilities will be provided under any such program, or the class of persons to be afforded an opportunity to participate in any such program may not, directly or indirectly, utilize criteria or methods of administration which have or may have the effect of subjecting a person to discrimination because of sex or which have or may have the effect of defeating or substantially impairing accomplishment of the objectives of the program or activity with respect to individuals of a particular sex.

(3) In any program receiving financial assistance in the form, or for acquisition, of real property or an interest in real property, to the extent that rights to space on, over, or under any such property are included as part of the program receiving that assistance, the nondiscrimination requirement of this part shall extend to any facility located wholly or in part in that space during the period of time stated in § 12.6(a)(2).

(4) The enumeration of specific forms of prohibited discrimination in this paragraph does not limit the generality of the prohibition in paragraph (a) of this section.

(c) *Employment practices.* (1) Where a primary objective of a program receiving Federal financial assistance to which this part applies is to provide employment, a recipient or other person or entity subject to this part shall not discriminate, directly or indirectly, on the ground of sex in its employment practices under any program receiving Federal financial assistance to which this part applies. Employment practices include recruitment, recruitment advertising, employment, layoff, termination, firing, upgrading, demotion, transfer, rates of pay, or other forms of compensation or benefits, selection for training or apprenticeship, use of facilities, and treatment of employees. Each recipient shall take affirmative steps to insure that applicants are employed and employees are treated during employment without regard to sex. Where this part applies to construction employment, the applicable procedural requirements shall be the same as those specified in or pursuant to Part III of Executive Order 11246, as amended, or any Executive Order which may supersede it.

(2) In regard to Federal financial assistance which does not have providing employment as a primary objective, the provisions of subparagraph (1) of this paragraph apply to the employment practices of the recipient if discrimination on the ground of sex in such employment practices tends on the ground of sex to exclude persons from participation in, to deny them the benefits of, or to subject them to discrimination under the program receiving Federal financial assistance. In any such case, the provisions

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of subparagraph (1) of this paragraph shall apply to the extent necessary to assure equality of opportunity to and nondiscriminatory treatment of beneficiaries.

(d) *Site selection.* A recipient may not make a selection of a site or location of a facility if the purpose of that selection, or its effect when made, is to exclude individuals from participation in, to deny them the benefits of, or to subject them to discrimination under any program or activity to which this rule applies, on the ground of sex.

(e) *Construction projects.* An EPA recipient of funds awarded for the location, design, or construction of a demonstration facility or sewage treatment plant may not deny access to, or use of, the facility being constructed or the system of which it is a part to any person on the basis of sex.

§ 12.5 Affirmative action.

(a) Each applicant or recipient must take reasonable steps to remove or overcome the consequences of prior discrimination and to accomplish the purposes of the Act where previous practice or usage has in purpose or effect tended to exclude individuals from participation in, deny them the benefits of, or subject them to discrimination under any program or activity to which this part applies, on the ground of sex.

(b) Even in the absence of such prior discrimination, a recipient in administering a program may take affirmative action to overcome the effects of conditions which resulted in limiting participation by, or denying benefits to, persons of a particular sex.

§ 12.6 Assurances required.

(a) *General.*—(1) *Form of assurance.* Every application for Federal financial assistance to a program to which this part applies and every application for Federal financial assistance to provide a facility shall, as a condition to its approval and the extension of any Federal financial assistance pursuant to the application, contain or be accompanied by an assurance that the program will be conducted or the facility operated in compliance with all requirements imposed by or pursuant to this part, and that the applicant shall take affirmative steps to insure equal opportunity and shall periodically evaluate its performance. Like assurances will be required of subgrantees, contractors and subcontractors, transferees, successors in interest, and other participants in the program. Any such assurance shall include provisions which express consent to judicial enforcement by the United States.

(2) *Duration of assurance.* In cases where the Federal financial assistance is to provide or is in the form of either personal property or real property or any interest therein or structure thereon, the assurance shall obligate the recipient or in the case of a subsequent transfer, the transferee, for the period during which the property is used for any purpose for which the Federal financial assistance is or was extended or for another purpose involving the provision of similar services or benefits, or for as long as the recipient retains ownership or possession of the property, whichever is longer. In all other cases the assurance shall obligate the recipient for the period during which Federal financial assistance is extended to the program.

(3) *Assistance for construction.* In the case where the assistance is sought for the construction of a facility, or part of a facility, the assurance shall in any event extend to the entire facility and to facilities operated in connection therewith. In particular, if a facility to be constructed is part of a larger system, the assurance shall extend to the larger system.

(4) *Assistance through transfer of real property.* Where Federal financial assistance is provided in the form of a transfer from the Federal Government of real property, structures, any improvements thereon, or any interest therein, the instrument effecting or recording the transfer shall contain a covenant running with the land assuring nondiscrimination for the period for which the real property is used for a purpose for which the Federal financial assistance is or was extended or for another purpose involving the provision of similar services or benefits. Where no transfer of property or an interest therein from the Federal Government is involved, but property is acquired or improved under a program of Federal financial assistance, the recipient shall agree to include such a covenant in any subsequent transfer of such property. When the property is obtained from the Federal Government, the covenant may also include a condition coupled with a right to be reserved by the Agency to revert title to the property in the event of a breach of the covenant. Such a condition and right of reverter may be included in covenants for any grants or other assistance that the Administrator in his discretion deems appropriate for such treatment. In such event if a transferee of real property proposes to mortgage or otherwise encumber the real property as security for financing construction of new or improvement of existing facilities on such property for the purposes for which the property was transferred, the Administrator may agree, upon request of the transferee and if necessary to accomplish such financing, and upon such conditions as he deems appropriate, to subordinate such right of reversion to the lien of such mortgage or other encumbrance.

(b) *Continuing State programs.* Every application by a State or a State agency to carry out a program involving continuing Federal financial assistance to which this part applies shall, as a condition to its approval and the extension of any Federal financial assistance pursuant to the application, (1) contain or be accompanied by a statement that that program is (or, in the case of a new program, will be) conducted in compliance with all requirements imposed by or under this part, and (2) provide or be accompanied by provision for such methods of administration for the program as are found by the Administrator to give reasonable assurance that the applicant and all recipients of Federal financial assistance under such program will comply with all requirements imposed by or under this part.

(c) *Assurances from educational institutions.* In the case of any application for Federal financial assistance to an institution of higher education, the assurance required by this section shall extend to admission practices and to all other practices relating to the treatment of students.

§ 12.7 Compliance information.

(a) *Cooperation and assistance.* Each responsible Agency official shall seek the cooperation of recipients and applicants in obtaining compliance with this part and shall provide assistance and guidance to recipients and applicants to help them comply voluntarily with this part.

(b) *Compliance reports.* Each recipient or applicant shall keep such records and submit to the responsible Agency official or such official's designee timely, complete, and accurate compliance reports at such times, in such form, and containing such information, as the responsible Agency official or such official's designee may determine to be necessary or useful to enable the Agency to ascertain whether the recipient or applicant has complied or is complying with this part. Recipients and applicants shall have available for Agency officials on request data showing the extent to which persons of each sex are or will be beneficiaries of the assistance. In the case of any program under which a primary recipient extends or will extend Federal financial assistance to any other recipient such other recipient shall submit such compliance reports to the primary recipient as may be necessary or useful to enable the primary recipient to carry out its obligations as a recipient or applicant under this part.

(c) *Access to source of information.* Each recipient shall permit access by the responsible Agency official or such official's designee during normal business hours to such of its facilities, books, records, accounts, and other sources of information as may be relevant to a determination of whether or not the recipient is complying with this part. Where any information required of a recipient is in the exclusive possession of any other agency, institution, or person and such agency, institution, or person fails or refuses to furnish this information, the recipient shall so certify in its report and shall set forth what efforts it had made to obtain the information.

(d) *Information to beneficiaries and participants.* Each recipient shall make available to participants, beneficiaries, and other interested persons any information pertinent to the provisions of this part and its applicability to the

program receiving Federal financial assistance which is necessary or useful to apprise such persons of the protections against discrimination assured them by the Act and by this part.

§ 12.8 Investigations.

(a) *Periodic compliance reviews.* The Administrator shall from time to time review the practices of recipients to determine whether they are complying with this part.

(b) *Complaints.* Any person or entity who believes any specific class of persons (including the person or entity complaining) to be subjected to discrimination prohibited by this part may personally or by a representative file with the Administrator a written complaint. This complaint should be filed as promptly as possible after the date of the alleged discrimination.

(c) *Investigations.* The Administrator will make a prompt investigation whenever a compliance review, report, complaint, or any other information indicates a possible failure to comply with this part. The investigation will include, where appropriate, a review of the pertinent practices and policies of the recipient, the circumstances under which the possible noncompliance with this part occurred, and other factors relevant to a determination of whether the recipient has failed to comply with this part.

(d) *Resolution of investigation.* (1) If an investigation indicates a failure to comply with this part, the Administrator will so inform the recipient and complainant, if any, in writing, and the matter will be resolved by informal means whenever possible. If the Administrator determines that the matter cannot be resolved by informal means, action will be taken as provided for in § 12.9.

(2) If an investigation does not warrant action pursuant to subparagraph (1) of this paragraph, the Administrator will so inform the recipient and complainant, if any, in writing.

(e) *Intimidatory or retaliatory acts prohibited.* No recipient or other person shall intimidate, threaten, coerce, or discriminate against any individual for the purpose of interfering with any right or privilege secured by the Act or by this part, or because he or she has made a complaint, testified, assisted, or participated in any manner in an investigation, proceeding, or hearing under this part. The Administrator or the Administrator's designee may agree to keep confidential the identity of any complainant except to the extent that disclosure would be required by law in proceedings for the enforcement of this part.

§ 12.9 Procedure for obtaining compliance.

(a) *General.* If compliance with this part cannot be assured by informal means, compliance with this part shall be effected by termination of or refusal to grant or to continue Federal assistance in accordance with the procedures of paragraph (b) of this section, or by any other means authorized by law in accordance with the procedures of paragraph (c) of this section. Such other means include, but are not limited to, (1) a referral of the matter to the Department of Justice with a recommendation that appropriate judicial proceedings be brought to enforce any rights of the United States under any law or assurance or contractual undertaking, and (2) any applicable proceeding under State or local law.

(b) *Procedure for termination or refusal to grant or continue assistance.* An order terminating or refusing to grant or continue Federal assistance shall become effective only after:

(1) The Administrator has advised the applicant or recipient of its failure to comply and has determined that compliance cannot be secured by voluntary means;

(2) There has been an express finding on the record, after opportunity for hearing, of a failure by the applicant or recipient to comply with a requirement imposed by or under this part;

(3) The action has been approved by the Administrator pursuant to § 12.11 (e); and

(4) The expiration of 30 days after the Administrator has filed with the Committee of the House and the Committee of the Senate having legislative jurisdiction over the program or activity involved, a full written report of the circumstances and the grounds for such action. The termination or refusal to grant or continue assistance shall be limited to the particular political entity, or part thereof, or other recipient as to which a finding of noncompliance with section 13 of the Act and with this part has been made and shall be limited in its effect to the particular program or part thereof in which such noncompliance has been so found.

(c) *Other means authorized by law.* No action to effect compliance with section 13 of the Act and with this part by any other means authorized by law shall be taken until:

(1) The Administrator has determined that compliance cannot be secured by voluntary means, and the recipient or other person against whom action will be sought has been notified of such determination; and

(2) The expiration of at least 10 days from the mailing of such notice to the recipient or such other person. During this period of at least 10 days, additional efforts may be made to persuade the recipient or such other person to take such corrective action as may be appropriate.

§ 12.10 Hearings.

(a) *Opportunity for hearing.* Whenever an opportunity for a hearing is required by § 12.9(b), reasonable notice shall be given by certified mail, return receipt requested, to the affected applicant or recipient. This notice shall fix a date not less than 3 weeks after the date of receipt of such notice within which the applicant or recipient may file with the Administrator a request in writing that the matter be scheduled for hearing. An applicant or recipient may waive a hearing and submit written information and argument for the record. The failure of an applicant or recipient to request a hearing under this paragraph or to appear at a hearing for which a date has been set shall be deemed to be a waiver of the right to a hearing under § 12.9(b) and consent to the making of a decision on the basis of such information as is available.

(b) *Time and place of hearing.* Hearings shall be held at the offices of the Agency in Washington, D.C., unless the Administrator determines that the convenience of the applicant or recipient or of the Agency requires that another place be selected. Hearings shall be held at a time fixed by the Administrator before an administrative law judge appointed in accordance with section 3105 of title 5, United States Code, or detailed under section 3344 of title 5, United States Code.

(c) *Right to counsel.* In any proceeding under this section, the applicant or recipient and the Agency shall have the right to be represented by counsel.

(d) *Procedures, evidence, and the record.* (1) The hearing, decision, and any administrative review thereof shall be conducted in conformity with 5 U.S.C. 554–557 (1970).

(2) Technical rules of evidence do not apply to hearings conducted pursuant to this part, but rules or principles designed to assure production of the most credible evidence available and to subject testimony to test by cross-examination shall be applied where reasonably necessary by the officer conducting the hearing. A transcript shall be made of the oral evidence except to the extent the substance thereof is stipulated for the record. All decisions shall be based upon the hearing record and written findings shall be made.

(e) *Consolidated or joint hearings.* In cases in which the same or related facts are asserted to constitute noncompliance with this part with respect to two or more types of Federal financial assistance to which this part applies, the Administrator may provide for the conduct of consolidated or joint hearings, and for the application to such hearings of rules or procedures not inconsistent with this part. Final decisions in such cases shall be made in accordance with § 12.11.

§ 12.11 Decisions and notices.

(a) *Procedure on decisions by administrative law judge.* The administrative law judge shall make an initial decision, including his or her recommended findings and proposed decision, and a copy of such initial decision shall be mailed by certified mail (return receipt requested) to the applicant or recipient. The applicant or recipient may, within 30 days after the receipt of such notice of initial decision, file with the Administrator his exceptions to the initial decision, and his reasons therefor. In the absence of exceptions, the Administrator may, on his own motion, within 45

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days after the initial decision, serve on the applicant or recipient a notice that he will review the decision. Upon the filing of such exceptions or of notice of review, the Administrator shall review the initial decision and issue his own decision thereon including the reasons therefor. In the absence of either exceptions or a notice of review the initial decision shall, subject to paragraph (e) of this section, constitute the final decision of the Administrator.

(b) *Decisions on record on review by the Administrator.* Whenever the Administrator reviews the decision of an administrative law judge pursuant to paragraph (a) of this section, the applicant or recipient, the Agency officials responsible, and the complainant, if any, shall be given reasonable opportunity to file with him briefs or other written statements of their contentions, and a written copy of the final decision of the Administrator shall be sent to the applicant or recipient and to the complainant, if any.

(c) *Decisions on record where a hearing is waived.* Whenever a hearing is waived pursuant to § 12.10(a), a decision shall be made by the Administrator on the record and a written copy of such decision shall be sent to the applicant or recipient, and to the complainant, if any.

(d) *Rulings required.* Each decision of an administrative law judge shall set forth his or her ruling on each finding, conclusion, or exception presented, and shall identify the requirement or requirements imposed by or pursuant to this part with which it is found that the applicant or recipient has failed to comply.

(e) *Approval by Administrator.* Any decision by an official of the Agency, other than the Administrator personally, which provides for the termination of, or the refusal to grant or continue, Federal financial assistance, or the imposition of any other sanction available under this part or the Act, shall promptly be transmitted to the Administrator personally, who may approve such decision, vacate it, or remit or mitigate any sanction imposed.

(f) *Content of orders.* The final decision, vacate it, or remit or mitigate any or refusal to grant or continue, Federal financial assistance, in whole or in part, to the program involved and may contain such terms, conditions, and other provisions as are consistent with and will effectuate the purpose of the Act and this part, including provisions designed to assure that no Federal financial assistance will thereafter be extended under such program to the applicant or recipient determined by such decision to have failed to comply with requirements imposed by or under this part unless and until it corrects its noncompliance and satisfies the Administrator that it will fully comply with this part.

(g) *Post-termination proceedings.* (1) An applicant or recipient adversely affected by an order issued under paragraph (f) of this section shall be restored to full eligibility to receive Federal financial assistance from the Agency if it satisfies the terms and conditions of that order for such eligibility and brings itself into compliance with this part and provides reasonable assurance that it will fully comply with this part in the future.

(2) Any applicant or recipient adversely affected by an order entered pursuant to paragraph (f) of this section may at any time request the Administrator to restore fully its eligibility to receive Federal financial assistance from the Agency. Any such request shall be supported by information showing that the applicant or recipient has met the requirements of subparagraph (1) of this paragraph. If the Administrator determines that those requirements have been satisfied, he shall restore such eligibility.

(3) If the Administrator denies any request made under subparagraph (2) of this paragraph the applicant or recipient may submit a request in writing for a hearing, specifying why it believes him to have been in error. It shall thereupon be given an expeditious hearing, with a decision on the record in accordance with rules or procedures issued by the Administrator. The applicant or recipient will be restored to such eligibility if it proves at such a hearing that it satisfied the requirements of subparagraph (1) of this paragraph. Failure to file such a request within 3 weeks after receipt of notice of such denial shall constitute consent to the Administrator's determination.

(4) While proceedings under this paragraph (g) are pending, the sanctions imposed by the order issued under paragraph (f) of this section shall remain in effect.

§ 12.12 Effect on other regulations, forms, and instructions.

(a) *Effect on other regulations.* All regulations, orders, or like directions issued before the effective date of this part by any officer of the Agency, or by any predecessor of such an officer, which impose requirements designed to prohibit any discrimination against individuals on the ground of sex under any program or activity to which this part applies, and which authorize the termination of or refusal to grant or to continue Federal financial assistance to any applicant for or recipient of such assistance under such program for failure to comply with such requirements, are hereby superseded to the extent that the discrimination against which they are directed is prohibited by this part. Nothing in this part, however, supersedes any of the following (including future amendments thereof): (1) Executive Order 11246 (3 CFR 1971 ed., page 434) and regulations issued thereunder, or (2) any other orders, regulations, or instructions insofar as such orders, regulations, or instructions prohibit discrimination on the ground of sex in any program or activity to which this part is inapplicable, or prohibit discrimination on any other ground.

(b) *Forms and instructions.* The Administrator shall issue and promptly make available to all interested persons forms and detailed instructions and procedures for effectuating this part as applied to programs to which this part applies and for which he is responsible.

(c) *Supervision and coordination.* The Administrator may from time to time assign to officials of the Agency, or to officials of other departments or agencies of the government with the consent of such departments or agencies, responsibilities in connection with effectuation of the purposes of section 13 of the Act, and this part. The Administrator may delegate in writing any function assigned (other than responsibility for final decision as provided in § 12.11) to him by the Act or by this part. Any action taken, determination made, or requirement imposed by an official of another department or agency acting pursuant to an assignment or delegation of responsibility under this paragraph shall have the same effect as though such action had been taken by the Administrator of the Agency. All actions taken pursuant to this part with respect to EPA grants including written communications to or from a grant applicant or grantee shall be effected through the appropriate EPA Grants Officer.

[FR Doc.74-21122 Filed 9-13-74;8:45 am]

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III.

PROVISIONS FOR ENVIRONMENTAL AND SOCIAL IMPACTS AND PUBLIC PARTICIPATION REGULATIONS.

III. 1

federal register

MONDAY, APRIL 14, 1975
WASHINGTON, D.C.
Volume 40 ■ Number 72
PART III

ENVIRONMENTAL PROTECTION AGENCY

Preparation of Environmental Impact Statements

■

Final Regulations

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Title 40—Protection of Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

[FRL 327 5]

PART 6—PREPARATION OF ENVIRONMENTAL IMPACT STATEMENTS

Final Regulation

The National Environmental Policy Act of 1969 (NEPA), implemented by Executive Order 11514 of March 5, 1970, and the Council on Environmental Quality's (CEQ's) Guidelines of August 1, 1973, requires that all agencies of the Federal Government prepare detailed environmental impact statements on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment. NEPA requires that agencies include in their decision-making process an appropriate and careful consideration of all environmental aspects of proposed actions, an explanation of potential environmental effects of proposed actions and their alternatives for public understanding, a discussion of ways to avoid or minimize adverse effects of proposed actions and a discussion of how to restore or enhance environmental quality as much as possible.

On January 17, 1973, the Environmental Protection Agency (EPA) published a new Part 6 in interim form in the FEDERAL REGISTER (38 FR 1698), establishing EPA policy and procedures for the identification and analysis of environmental impacts and the preparation of environmental impact statements (EIS's) when significant impacts on the environment are anticipated.

On July 17, 1974, EPA published a notice of proposed rulemaking (the FEDERAL REGISTER (39 FR 26254). The rulemaking provided detailed procedures for applying NEPA to EPA's nonregulatory programs only. A separate notice of administrative procedure published in the October 21, 1974, FEDERAL REGISTER (39 FR 37419) gave EPA's procedures for voluntarily preparing EIS's on certain regulatory activities. EIS procedures for another regulatory activity, issuing National Pollutant Discharge Elimination System (NPDES) discharge permits to new sources, will appear in 40 CFR 6. Associated amendments to the NPDES operating regulations, covering permits to new sources, will appear in 40 CFR 125.

The proposed regulation on the preparation of EIS's for nonregulatory programs was published for public review and comment. EPA received comments on this proposed regulation from environmental groups; Federal, State and local governmental agencies; industry; and private individuals. As a result of the comments received, the following changes have been made:

(1) Coastal zones, wild and scenic rivers, prime agricultural land and wildlife habitat were included in the criteria to be considered during the environmental review.

The Coastal Zone Management Act and the Wild and Scenic Rivers Act are intended to protect these environmentally sensitive areas; therefore, EPA should consider the effects of its projects on these areas. Protection of prime agricultural lands and wildlife habitat has become an important concern as a result of the need to further increase food production from domestic sources as well as commercial harvesting of fish and other wildlife resources and from the continuing need to preserve the diversity of natural resources for future generations.

(2) Consideration of the use of floodplains as required by Executive Order 11296 was added to the environmental review process.

Executive Order 11296 requires agencies to consider project alternatives which will preclude the uneconomic, hazardous or unnecessary use of floodplains to minimize the exposure of facilities to potential flood damage, lessen the need for future Federal expenditures for flood protection and flood disaster relief and preserve the unique and significant public value of the floodplain as an environmental resource.

(3) Statutory definitions of coastal zones and wild and scenic rivers were added to § 6.214(b).

These statutes define sensitive areas and require states to designate areas which must be protected.

(4) The review and comment period for negative declarations was extended from 15 days to 15 working days.

Requests for negative declarations and comments on negative declarations are not acted on during weekends and on holidays. In addition, mail requests often take two or three days to reach the appropriate office and several more days for action and delivery of response. Therefore, the new time frame for review and response to a negative declaration is more realistic without adding too much delay to a project.

(5) Requirements for more data in the negative declaration to clarify the proposed action were added in § 6.212(b).

Requiring a summary of the impacts of a project and other data to support the negative declaration in this document improves its usefulness as a tool to review the decision not to prepare a full EIS on a project.

(6) The definitions of primary and secondary impacts in § 6.301 were clarified.

The definitions were made more specific, especially in the issue areas of induced growth and growth rates, to reduce subjectivity in deciding whether an impact is primary or secondary.

(7) Procedures for EPA public hearings in Subpart D were clarified.

Language was added to this subpart to distinguish EPA public hearings from applicant hearings required by statute or regulation, such as the facilities plan hearings.

(8) The discussion of retroactive application (§ 6.504) was clarified and abbreviated.

The new language retains flexibility in decision making for the Regional Administrator while eliminating the ambiguity of the language in the interim regulation.

(9) The criteria for writing an EIS if wetlands may be affected were modified in § 6.510(b).

The new language still requires an EIS on a project which will be located on wetlands but limits the requirements for an EIS on secondary wetland effects to those which are significant and adverse.

(10) A more detailed explanation of the data required in environmental assessments (§ 6.512) was added.

Requiring more specific data in several areas, including energy production and consumption as well as land use trends and population projections, from the applicant will provide a more complete data base for the environmental review. Documentation of the applicant's data will allow EPA to evaluate the validity of this data.

(11) Subpart P, Guidelines for Compliance with NEPA in Research and Development Programs and Activities, was revised.

ORD simplified this subpart by removing the internal procedures and assignments of responsibility for circulation in internal memoranda. Only the general application of this regulation to ORD programs was retained.

(12) The discussions of responsibilities and document distribution procedures were moved to appendices attached to the regulations.

These sections were removed from the regulatory language to improve the readability of the regulation and because these discussions are more explanatory and do not need to have the legal force of regulatory language.

(13) Consideration of the Endangered Species Act of 1973 was incorporated into the regulation.

EPA recognizes its responsibility to assist with implementing legislation which will help preserve or improve our natural resources.

The major issues raised on this regulation were on new and proposed criteria for determining when to prepare an EIS and the retroactive application of the criteria to projects started before July 1, 1975. In addition to the new criteria which were added, CEQ requested the addition of several quantitative criteria for which parameters have not been set. These new criteria are being discussed with CEQ and may be added to the regulation at a future date. Changes in the discussion of retroactive application of the criteria are described in item 8 above.

EPA believes that Agency compliance with the regulations of Part 6 will enhance the present quality of human life without endangering the quality of the natural environment for future generations.

Effective date: This regulation will become effective April 14, 1975.

Dated: April 3, 1975.

RUSSELL E. TRAIN,
Administrator.

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Authority: Secs. 102, 103 of 83 Stat. 854 (42 U.S.C. 4321 et seq.)

Subpart A—General

§ 6.100 Purpose and policy.

(a) The National Environmental Policy Act (NEPA) of 1969, implemented by Executive Order 11514 and the Council on Environmental Quality's (CEQ's) Guidelines of August 1, 1973 (38 FR 20550), requires that all agencies of the Federal Government prepare detailed environmental impact statements on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment. NEPA requires that agencies include in the decision-making process appropriate and careful consideration of all environmental effects of proposed actions, explain potential environmental effects of proposed actions and their alternatives for public understanding, avoid or minimize adverse effects of proposed actions and restore or enhance environmental quality as much as possible.

(b) This part establishes Environmental Protection Agency (EPA) policy and procedures for the identification and analysis of the environmental impacts of EPA nonregulatory actions and the preparation and processing of environmental impact statements (EIS's) when significant impacts on the environment are anticipated.

§ 6.102 Definitions.

(a) "Environmental assessment" is a written analysis submitted to EPA by its grantees or contractors describing the environmental impacts of proposed actions undertaken with the financial support of EPA. For facilities or section 208 plans as defined in § 6.102 (j) and (k), the assessment must be an integral, though identifiable, part of the plan submitted to EPA for review.

(b) "Environmental review" is a formal evaluation undertaken by EPA to determine whether a proposed EPA action may have a significant impact on the environment. The environmental assessment is one of the major sources of information used in this review.

(c) "Notice of intent" is a memorandum, prepared after the environmental review, announcing to Federal, regional, State, and local agencies, and to interested persons, that a draft EIS will be prepared.

(d) "Environmental impact statement" is a report, prepared by EPA, which identifies and analyzes in detail the environmental impacts of a proposed EPA action and feasible alternatives.

(e) "Negative declaration" is a written announcement, prepared after the environmental review, which states that EPA has decided not to prepare an EIS and summarizes the environmental impact appraisal.

(f) "Environmental impact appraisal" is based on an environmental review and supports a negative declaration. It describes a proposed EPA action, its expected environmental impact, and the basis for the conclusion that no significant impact is anticipated.

(g) "NEPA-associated documents" are any one or combination of: notices of intent, negative declarations, exemption certifications, environmental impact appraisals, news releases, EIS's, and environmental assessments.

(h) "Responsible official" is an Assistant Administrator, Deputy Assistant Administrator, Regional Administrator or their designee.

(i) "Interested persons" are individuals, citizen groups, conservation organizations, corporations, or other nongovernmental units, including applicants for EPA contracts or grants, who may be interested in, affected by, or technically competent to comment on the environmental impacts of the proposed EPA action.

(j) "Section 208 plan" is an areawide waste treatment management plan prepared under section 208 of the Federal Water Pollution Control Act (FWPCA), as amended, under 40 CFR Part 126 and 40 CFR Part 35, Subpart F.

(k) "Facilities plan" is a preliminary plan prepared as the basis for construction of publicly owned waste treatment works under Title II of FWPCA, as amended, under 40 CFR 35.917.

(l) "Intramural project" is an in-house project undertaken by EPA personnel.

(m) "Extramural project" is a project undertaken by grant or contract.

§ 6.104 Summary of procedures for implementing NEPA.

(a) *Responsible official.* The responsible official shall utilize a systematic, interdisciplinary approach to integrate natural and social sciences as well as environmental design arts in planning programs and making decisions which are subject to NEPA review. His staff may be supplemented by professionals from other agencies, universities or consultants whenever in-house capabilities are insufficiently interdisciplinary.

(b) *Environmental assessment.* Environmental assessments must be submitted to EPA by its grantees and contractors, as required in Subparts E, F, G, and H of this part. The assessment is used by EPA to decide if an EIS is required and to prepare one if necessary.

(c) *Environmental review.* Environmental reviews shall be made of proposed and certain ongoing EPA actions as required in § 6.104(c). This process shall consist of a study of the action to identify and evaluate the environmental impacts of the action. Types of grants, contracts and other actions requiring study are listed in the subparts following

Subpart D. The process shall include a review of any environmental assessment received to determine whether any significant impacts are anticipated, whether any changes can be made in the proposed action to eliminate significant adverse impacts, and whether an EIS is required. EPA has overall responsibility for this review, although its grantees and contractors will contribute to the review through their environmental assessments.

(d) *Notice of intent and EIS's.* When an environmental review indicates that a significant environmental impact may occur and the significant adverse impacts cannot be eliminated by making changes in the project, a notice of intent shall be published, and a draft EIS shall be prepared and distributed. After external coordination and evaluation of the comments received, a final EIS shall be prepared and distributed. EIS's should be prepared first on those proposed actions with the most adverse effects which are scheduled for earliest implementation and on other proposed actions according to priorities assigned by the responsible official.

(e) *Negative declaration and environmental impact appraisal.* When the environmental review indicates no significant impacts are anticipated or when the project is changed to eliminate the significant adverse impacts, a negative declaration shall be issued. For the cases in Subparts E, F, G, and H of this part, an environmental impact appraisal shall be prepared which summarizes the impacts, alternatives and reasons an EIS was not prepared. It shall remain on file and be available for public inspection.

§ 6.106 Applicability.

(a) *Administrative actions covered.* This part applies to the administrative actions listed below. The subpart referenced with each action lists the detailed NEPA procedures associated with the action. Administrative actions are:

(1) Development of EPA legislative proposals;

(2) Development of favorable reports on legislation initiated elsewhere and not accompanied by an EIS, when they relate to or affect matters within EPA's primary areas of responsibility;

(3) For the programs under Title II of FWPCA, as amended, those administrative actions in § 6.504;

(4) For the Office of Research and Development, those administrative actions in § 6.604;

(5) For the Office of Solid Waste Management Programs, those administrative actions in § 6.702;

(6) For construction of special purpose facilities and facility renovations, those administrative actions in § 6.804; and

(7) Development of an EPA project in conjunction with or located near a project or complex of projects started by one or more Federal agencies when the cumulative effects of all the projects will be major allocations of resources or foreclosures of future land use options.

(b) *Administrative actions excluded.* The requirements of this part do not apply to environmentally protective regulatory activities undertaken by EPA, nor to projects exempted in § 6.504, § 6.604, and § 6.702.

(c) *Application to ongoing actions.* This regulation shall apply to uncompleted and continuing EPA actions initiated before the promulgation of these procedures when modifications of or alternatives to the EPA action are still available, except for the Title II construction grants program. Specific application for the construction grants program is in § 6.504-(c). An EIS shall be prepared for each project found to have significant environmental effects as described in § 6.200.

(d) *Application to legislative proposals.* (1) As noted in paragraphs (a) (1) and (2) of this section, EIS's or negative declarations shall be prepared for legislative proposals or favorable reports relating to legislation which may significantly affect the environment. Because of the nature of the legislative process, EIS's for legislation must be prepared and reviewed according to the procedures followed in the development and review of the legislative matter. These procedures are described in Office of Management and Budget (OMB) Circular No. A-19.

(2) A working draft EIS shall be prepared by the EPA office responsible for preparing the legislative proposal or report on legislation. It shall be prepared concurrently with the development of the legislative proposal or report and shall contain the information required in § 6.304. The EIS shall be circulated for internal EPA review with the legislative proposal or report and other supporting documentation. The working draft EIS shall be modified to correspond with changes made in the proposal or report during the internal review. All major alternatives developed during the formulation and review of the proposal or report should be retained in the working draft EIS.

(3) The working draft EIS shall accompany the legislative proposal or report to OMB. EPA shall revise the working draft EIS to respond to comments from OMB and other Federal agencies.

(4) Upon transmittal of the legislative proposal or report to Congress, the working draft EIS will be forwarded to CEQ and the Congress as a formal legislative EIS. Copies will be distributed according to procedures described in Appendix C.

(5) Comments received by EPA on the legislative EIS shall be forwarded to the appropriate Congressional Committees. EPA also may respond to specific comments and forward its responses with the comments. Because legislation undergoes continuous changes in Congress beyond the control of EPA, no final EIS need be prepared by EPA.

§ 6.108 Completion of NEPA procedures before starting administrative action.

(a) No administrative action shall be taken until the environmental review process, resulting in an EIS or a negative declaration with environmental appraisal, has been completed.

(b) *When an EIS will be prepared.* Except when requested by the responsible official in writing and approved by CEQ, no administrative action shall be taken sooner than ninety (90) calendar days after a draft EIS has been distributed or sooner than thirty (30) calendar days after the final EIS has been made public. If the final text of an EIS is filed within ninety (90) days after a draft EIS has been circulated for comment, furnished to CEQ and made public, the minimum thirty (30) day period and the ninety (90) day period may run concurrently if they overlap. The minimum periods for review and advance availability of EIS's shall begin on the date CEQ publishes the notice of receipt of the EIS in the FEDERAL REGISTER. In addition, the proposed action should be modified to conform with any changes EPA considers necessary before the final EIS is published.

(c) *When an EIS will not be prepared.* If EPA decides not to prepare an EIS on any action listed in this part for which a negative declaration with environmental appraisal has been prepared, no administrative action shall be taken for at least fifteen (15) working days after the negative declaration is issued to allow public review of the decision. If significant environmental issues are raised during the review period, the decision may be changed and a new environmental appraisal or an EIS may be prepared.

§ 6.110 Responsibilities.

See Appendix B for responsibilities of this part.

Subpart B—Procedures

§ 6.200 Criteria for determining when to prepare an EIS.

The following general criteria shall be used when reviewing a proposed EPA action to determine if it will have a significant impact on the environment and therefore require an EIS:

(a) *Significant environmental effects.* (1) An action with both beneficial and detrimental effects should be classified as having significant effects on the environment, even if EPA believes that the net effect will be beneficial. However, preference should be given to preparing EIS's on proposed actions which, on balance, have adverse effects.

(2) When determining the significance of a proposed action's impacts, the responsible official shall consider both its short term and long term effects as well as its primary and secondary effects as defined in § 6.304-(c). Particular attention should be given to changes in land use patterns; changes in energy supply and demand; increased development in floodplains; significant changes in ambient air and water quality or noise levels; potential violations of air quality, water quality and noise level standards; significant changes in surface or groundwater quality or quantity; and encroach-

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ments on wetlands, coastal zones, or fish and wildlife habitat, especially when threatened or endangered species may be affected.

(3) Minor actions which may set a precedent for future major actions with significant adverse impacts or a number of actions with individually insignificant but cumulatively significant adverse impacts shall be classified as having significant environmental impacts. If EPA is taking a number of minor, environmentally insignificant actions that are similar in execution and purpose, during a limited time span and in the same general geographic area, the cumulative environmental impact of all of these actions shall be evaluated.

(4) In determining the significance of a proposed action's impact, the unique characteristics of the project area should be carefully considered. For example, proximity to historic sites, parklands or wild and scenic rivers may make the impact significant. A project discharging into a drinking water aquifer may make the impact significant.

(5) A proposed EPA action which will have direct and significant adverse effects on a property listed in or eligible for listing in the National Register of Historic Places or will cause irreparable loss or destruction of significant scientific, prehistoric, historic or archaeological data shall be classified as having significant environmental impacts.

(b) *Controversial actions.* An EIS shall be prepared when the environmental impact of a proposed EPA action is likely to be highly controversial.

(c) *Additional criteria for specific programs.* Additional criteria for various EPA programs are in Subpart E (Title II Wastewater Treatment Works Construction Grants Program), Subpart F (Research and Development Programs), Subpart G (Solid Waste Management Programs) and Subpart H (Construction of Special Facilities and Facility Renovations).

§ 6.202 Environmental assessment.

Environmental assessments must be submitted to EPA by its grantees and contractors as required in Subparts E, F, G, and H of this part. The assessment is to ensure that the applicant considers the environmental impacts of the proposed action at the earliest possible point in his planning process. The assessment and other relevant information are used by EPA to decide if an EIS is required. While EPA is responsible for ensuring that EIS's are factual and comprehensive, it expects assessments and other data submitted by grantees and contractors to be accurate and complete. The responsible official may request additional data and analyses from grantees or other sources any time he determines they are needed to comply adequately with NEPA.

§ 6.204 Environmental review.

Proposed EPA actions, as well as ongoing EPA actions listed in § 6.106(c), shall be subjected to an environmental review. This review shall be a continuing one, starting at the earliest possible point in the development of the project. It shall consist of a study of the proposed action, including a review of any environmental assessments received, to identify and evaluate the environmental impacts of the proposed action and feasible alternatives. The review will determine whether significant impacts are anticipated from the proposed action, whether any feasible alternatives can be adopted or changes can be made in project design to eliminate significant adverse impacts, and whether an EIS or a negative declaration is required. The responsible official shall determine the proper scope of the environmental review. The responsible official may delay approval of related projects until the proposals can be reviewed together to allow EPA to properly evaluate their cumulative impacts.

§ 6.206 Notice of intent.

(a) *General.* (1) When an environmental review indicates a significant impact may occur and significant adverse impacts cannot be eliminated by making changes in the project, a notice of intent, announcing the preparation of a draft EIS, shall be issued by the responsible official. The notice shall briefly describe the EPA action, its location, and the issues involved (Exhibit 1).

(2) The purpose of a notice of intent is to involve other government agencies and interested persons as early as possible in the planning and evaluation of EPA actions which may have significant environmental impacts. This notice should encourage agency and public input to a draft EIS and assure that environmental values will be identified and weighed from the outset rather than accommodated by adjustments at the end of the decision-making process.

(b) *Specific actions.* The specific actions to be taken by the responsible official on notices of intent are:

(1) When the review process indicates a significant impact may occur and significant adverse impacts cannot be eliminated by making changes in the project, prepare a notice of intent immediately after the environmental review.

(2) Distribute copies of the notice of intent as required in Appendix C.

(3) Publish in a local newspaper, with adequate circulation to cover the area affected by the project, a brief public notice stating that an EIS will be prepared on a particular project, and the public may participate in preparing the EIS (Exhibit 2). News releases also may be submitted to other media.

(c) *Regional office assistance to program offices.* Regional offices will provide assistance to program offices in taking these specific actions when the EIS originates in a program office.

§ 6.208 Draft EIS's.

(a) *General.* (1) The responsible official shall assure that a draft EIS is prepared as soon as possible after the release of the notice of intent. Before releasing the draft EIS to CEQ, a preliminary version may be circulated for review to other offices within EPA with interest in or technical expertise related to the action. Then the draft EIS shall be sent to CEQ and circulated to Federal, State, regional and local agencies with special expertise or jurisdiction by law, and to interested persons. If the responsible official determines that a public hearing on the proposed action is warranted, the hearing will be held after the draft EIS is prepared, according to the requirements of § 6.402.

(2) Draft EIS's should be prepared at the earliest possible point in the project development. If the project involves a grant applicant or potential contractor, he must submit any data EPA requests for preparing the EIS. Where a plan or program has been developed by EPA or submitted to EPA for approval, the relationship between the plan and the later projects encompassed by its shall be evaluated to determine the best time to prepare an EIS. Whenever possible, an EIS will be drafted for the total program at the initial planning stage. Then later component projects included in the plan will not require individual EIS's unless they differ substantially from the plan, or unless the overall plan did not provide enough detail to fully assess significant impacts of individual projects. Plans shall be reevaluated by the responsible official to monitor the cumulative impact of the component projects and to preclude the plans' obsolescence.

(b) *Specific actions.* The specific actions to be taken by the responsible official on draft EIS's are:

(1) Distribute the draft EIS according to the procedures in Appendix C.

(2) Inform the agencies to reply directly to the originating EPA office. Commenting agencies shall have at least forty-five (45) calendar days to reply, starting from the date of publication in the FEDERAL REGISTER of lists of statements received by CEQ. If no comments are received during the reply period and no time extension has been requested, it shall be presumed that the agency has no comment to make. EPA may grant extensions of fifteen (15) or more calendar days. The time limits for review and extensions for State and local agencies; State, regional, and metropolitan clearinghouses; and interested persons shall be the same as those available to Federal agencies.

(3) Publish a notice in local newspapers stating that the draft EIS is available for comment and listing where copies may be obtained (Exhibit 2), and submit news releases to other media.

(4) Include in the draft EIS a notice stating that only those Federal, State, regional, and local agencies and interested persons who make substantive comments on the draft EIS or request a copy of the final EIS will be sent a copy.

(c) *Regional office assistance to program office.* If requested, regional offices will provide assistance to program offices in taking these specific actions when the EIS originates in a program office.

§ 6.210 Final EIS's.

(a) Final EIS's shall respond to all substantive comments raised through the review of the draft EIS. Special care should be taken to respond fully to comments disagreeing with EPA's position. (See also § 6.304(g).)

(b) Distribution and other specific actions are described in Appendix C. If there is an applicant, he shall be sent a copy. When the number of comments on the draft EIS is so large that distribution of the final EIS to all commenting entities appears impractical, the program or regional office preparing the EIS shall consult with OFA, which will consult with CEQ about alternative arrangements for distribution of the EIS.

§ 6.212 Negative declaration and environmental impact appraisals.

(a) *General.* When an environmental review indicates there will be no significant impact or significant adverse impacts have been eliminated by making changes in the project, the responsible official shall prepare a negative declaration to allow public review of his decision before it becomes final. The negative declaration and news release must state that interested persons disagreeing with the decision may submit comments for consideration by EPA. EPA shall not take administrative action on the project for at least fifteen (15) working days after release of the negative declaration and may allow more time for response. The responsible official shall have an environmental impact appraisal supporting the negative declaration available for public review when the negative declaration is released for those cases given in Subparts E, F, G, and H.

(b) *Specific actions.* The responsible official shall take the following specific actions on those projects for which both a negative declaration and an impact appraisal will be prepared:

(1) *Negative declaration.* (i) Prepare a negative declaration immediately after the environmental review. This document shall briefly summarize the purpose of the project, its location, the nature and extent of the land use changes related to the project, and the major primary and secondary impacts of the project. It shall describe how the more detailed environmental impact appraisal may be obtained at cost. (See Exhibit 3.)

(ii) Distribute the negative declaration according to procedures in Appendix C. In addition, submit to local newspapers and other appropriate media a brief news release with a negative declaration attached, informing the public that a decision not to prepare an EIS has been made and a negative declaration and environmental impact appraisal are available for public review and comment (Exhibit 2).

(2) *Environmental impact appraisal.* (i) Prepare an environmental impact appraisal concurrently with the negative declaration. This document shall briefly describe the proposed action and feasible alternatives, environmental impacts of the proposed action, unavoidable adverse impacts of the proposed action, the relationship between short term uses of man's environment and the maintenance and enhancement of long term productivity, steps to minimize harm to the environment, irreversible and irretrievable commitments of resources to implement the action, comments and consultations on the project, and reasons for concluding there will be no significant impacts. (See Exhibit 4.)

(ii) Distribute the environmental impact appraisal according to procedures in Appendix C.

§ 6.214 Additional procedures.

(a) *Historical and archaeological sites.* EPA is subject to the requirements of section 106 of the National Historic Preservation Act of 1966, 16 U.S.C. 470 *et seq.*, Executive Order 11593, the Archaeological and Historic Preservation Act of 1974, 16 U.S.C. 469 *et seq.*, and the regulations promulgated under this legislation. These statutes and regulations establish environmental review procedures which are independent of NEPA requirements.

(1) If an EPA action may affect properties with historic, architectural, archaeological or cultural value which are listed in the National Register of Historic Places (published in the FEDERAL REGISTER each February with supplements on the first Tuesday of each month), the responsible official shall comply with the procedures of the Advisory Council on Historic Preservation (36 CFR 800), including determining the need for a Memorandum of Agreement among EPA, the State Historic Preservation Officer and the Advisory Council. If a Memorandum of Agreement is executed, it shall be included in an EIS whenever one is prepared on a proposed action. See § 6.512(c) of this part for additional procedures for the construction grants program under Title II of the FWPCA, as amended.

(2) If an EPA action may cause irreparable loss or destruction of significant scientific, prehistoric, historic or archaeological data, the responsible official shall consult with the State Historic Preservation Officer in compliance with the Archaeological and Historic Preservation Act (P.L. 93-291).

(b) *Wetlands, floodplains, coastal zones, wild and scenic rivers, fish and wildlife.* The following procedures shall be applied to all EPA administrative actions covered by this part that may affect these environmentally sensitive resources.

(1) If an EPA action may affect wetlands, the responsible official shall consult with the appropriate offices of the Department of the Interior, Department of Commerce, and the U.S. Army Corps of Engineers during the environmental review to determine the probable impact of the action on the pertinent fish and wildlife resources and land use of these areas.

(2) If an EPA action may directly cause or induce the construction of buildings or other facilities in a floodplain, the responsible official shall evaluate flood hazards in connection with these facilities as required by Executive Order 11296 and shall, as far as practicable, consider alternatives to preclude the uneconomic, hazardous or unnecessary use of floodplains to minimize the exposure of facilities to potential flood damage, lessen the need for future Federal expenditures for flood protection and flood disaster relief and preserve the unique and significant public value of the floodplain as an environmental resource.

(3) If an EPA action may affect coastal zones or coastal waters as defined in Title III of the Costal Zone Management Act of 1972 (Pub. L. 92-583), the responsible official shall consult with the appropriate State offices and with the appropriate office of the Department of Commerce during the environmental review to determine the probable impact of the action on coastal zone or coastal water resources.

(4) If an EPA action may affect portions of rivers designated wild and scenic or being considered for this designation under the Wild and Scenic Rivers Act (Pub. L. 90-542), the responsible official shall consult with appropriate State offices and with the Secretary of the Interior or, where national forest lands are involved, with the Secretary of Agriculture during the environmental review to determine the status of an affected river and the probable impact of the action on eligible rivers.

(5) If an EPA action will result in the control or structural modification of any stream or other body of water for any purpose, including navigation and drainage, the responsible official shall consult with the United States Fish and Wildlife Service (Department of the Interior), the National Marine Fisheries Service of the National Oceanic and Atmospheric Administration (Department of Commerce), the U.S. Army Corps of Engineers and the head of the agency administering the wildlife resources of the particular State in which the action will take place with a view to the conservation of wildlife resources. This consultation shall follow the procedures in the Fish and Wildlife Coordination Act (Pub. L. 85-624) and shall occur during the environmental review of an action.

(6) If an EPA action may affect threatened or endangered species defined under section 4 of the Endangered Species Act of 1973 (Pub. L. 93-205), the responsible official shall consult with the Secretary of the Interior or the Secretary of Commerce, according to the procedures in section 7 of that act.

(7) Requests for consultation and the results of consultation shall be documented in writing. In all cases where consultation has occurred, the agencies consulted should receive copies of either the notice of intent and EIS or the negative declaration and environmental appraisal prepared on the proposed action. If a decision has already been made to prepare an EIS on a project and wetlands, floodplains, coastal zones, wild

and scenic rivers, fish or wildlife may be affected, the required consultation may be deferred until the preparation of the draft EIS.

§ 6.216 Availability of documents.

(a) EPA will print copies of draft and final EIS's for agency and public distribution. A nominal fee may be charged for copies requested by the public.

(b) When EPA no longer has copies of an EIS to distribute, copies shall be made available for public inspection at regional and headquarters Offices of Public Affairs. Interested persons also should be advised of the availability (at cost) of the EIS from the Environmental Law Institute, 1356 Connecticut Avenue NW., Washington, D.C. 20036.

(c) Lists of EIS's prepared or under preparation and lists of negative declarations prepared will be available at both the regional and headquarters Offices of Public Affairs.

Subpart C—Content of Environmental Impact Statements

§ 6.300 Cover sheet.

The cover sheet shall indicate the type of EIS (draft or final), the official project name and number, the responsible EPA office, the date, and the signature of the responsible official. The format is shown in Exhibit 5.

§ 6.302 Summary sheet.

The summary sheet shall conform to the format in Exhibit 6, based on Appendix I of the August 1, 1973, CEQ Guidelines, or the latest revision of the CEQ Guidelines.

§ 6.304 Body of EIS.

The body of the EIS shall identify, develop, and analyze the pertinent issues discussed in the seven sections below; each section need not be a separate chapter. This analysis should include, but not be limited to, consideration of the impacts of the proposed project on the environmental areas listed in Appendix A which are relevant to the project. The EIS shall serve as a means for the responsible official and the public to assess the environmental impacts of a proposed EPA action, rather than as a justification for decisions already made. It shall be prepared using a systematic, interdisciplinary approach and shall incorporate all relevant analytical disciplines to provide meaningful and factual data, information, and analyses. The presentation of data should be clear and concise, yet include all facts necessary to permit independent evaluation and appraisal of the beneficial and adverse environmental effects of alternative actions. The amount of detail provided should be commensurate with the extent and expected impact of the action and the amount of information required at the particular level of decision making. To the extent possible, an EIS shall not be drafted in a style which requires extensive scientific or technical expertise to comprehend and evaluate the environmental impact of a proposed EPA action.

(a) *Background and description of the proposed action.* The EIS shall describe the recommended or proposed action, its purpose, where it is located and its time setting. When a decision has been made not to favor an alternative until public comments on a proposed action have been received, the draft EIS may treat all feasible alternatives at similar levels of detail; the final EIS should focus on the alternative the draft EIS and public comments indicate is the best. The relationship of the proposed action to other projects and proposals directly affected by or stemming from it shall be discussed, including not only other EPA activities, but also those of other governmental and private organizations. Land use patterns and population trends in the project area and the assumptions on which they are based also shall be included. Available maps, photos, and artists' sketches should be incorporated when they help depict the environmental setting.

(b) *Alternatives to the proposed action.* The EIS shall develop, describe, and objectively weigh feasible alternatives to any proposed action, including the options of taking no action or postponing action. The analysis should be detailed enough to show EPA's comparative evaluation of the environmental impacts, commitments of resources, costs, and risks of the proposed action and each feasible alternative. For projects involving construction, alternative sites must be analyzed in enough detail for reviewers independently to judge the relative desirability of each site. For alternatives involving regionalization, the effects of varying degrees of regionalization should be addressed. If a cost-benefit analysis is prepared, it should be appended to the EIS and referenced in the body of the EIS. In addition, the reasons why the proposed action is believed by EPA to be the best course of action shall be explained.

(c) *Environmental impacts of the proposed action.* (1) The positive and negative effects of the proposed action as it affects both the national and international environment should be assessed. The attention given to different environmental factors will vary according to the nature, scale, and location of proposed actions. Primary attention should be given to those factors most evidently affected by the proposed action. The factors shall include, where appropriate, the proposed action's effects on the resource base, including land, water quality and quantity, air quality, public services and energy supply. The EIS shall describe primary and secondary environmental impacts, both beneficial and adverse, anticipated from the action. The description shall include short term and long term impacts on both the natural and human environments.

(2) Primary impacts are those that can be attributed directly to the proposed action. If the action is a field experiment, materials introduced into the environment which might damage certain plant communities or wildlife species would be a primary impact. If the action involves construction of a facility, such as a sewage treatment works, an office building or a laboratory, the primary impacts of the action would include the environmental impacts related to construction and operation of the facility and land use changes at the facility site.

(3) Secondary impacts are indirect or induced changes. If the action involves construction of a facility, the secondary impacts would include the environmental impacts related to:

(i) induced changes in the pattern of land use, population density and related effects on air and water quality or other natural resources;

(ii) increased growth at a faster rate than planned for or above the total level planned by the existing community.

(4) A discussion of how socioeconomic activities and land use changes related to the proposed action conform or conflict with the goals and objectives of approved or proposed Federal, regional, State and local land use plans, policies and controls for the project area should be included in the EIS. If a conflict appears to be unresolved in the EIS, EPA should explain why it has decided to proceed without full reconciliation.

(d) *Adverse impacts which cannot be avoided should the proposal be implemented and steps to minimize harm to the environment.* The EIS shall describe the kinds and magnitudes of adverse impacts which cannot be reduced in severity or which can be reduced to an acceptable level but not eliminated. These may include water or air pollution, undesirable land use patterns, damage to fish and wildlife habitats, urban congestion, threats to human health or other consequences adverse to the environmental goals in section 101(b) of NEPA. Protective and mitigative measures to be taken as part of the proposed action shall be identified. These measures to reduce or compensate for any environmentally detrimental aspect of the proposed action may include those of EPA, its contractors and grantees and others involved in the action.

(e) *Relationship between local short term uses of man's environment and the maintenance and enhancement of long term productivity.* The EIS shall describe the extent to which the proposed action involves tradeoffs between short term environmental gains at the expense of long term gains or vice-versa and the extent to which the proposed action forecloses future options. Special attention shall be given to effects which narrow the range of future uses of land and water resources or pose long term risks to health or safety. Consideration should be given to windfall gains or significant decreases in current property values from implementing the proposed action. In addition, the reasons the proposed action is believed by EPA to be justified now, rather than reserving a long term option for other alternatives, including no action, shall be explained.

(f) *Irreversible and irretrievable commitments of resources to the proposed action should it be implemented.* The EIS shall describe the extent to which

the proposed action requires commitment of construction materials, personhours and funds to design and implement the project, as well as curtails the range of future uses of land and water resources. For example, induced growth in undeveloped areas may curtail alternative uses of that land. Also, irreversible environmental damage can result from equipment malfunctions or industrial accidents at the project site. Therefore, the need for any irretrievable and significant commitments of resources shall be explained fully.

(g) *Problems and objections raised by other Federal, State and local agencies and by interested persons in the review process.* Final EIS's (and draft EIS's if appropriate) shall summarize the comments and suggestions made by reviewing organizations and shall describe the disposition of issues raised, e.g., revisions to the proposed action to mitigate anticipated impacts or objections. In particular, the EIS shall address the major issues raised when the EPA position differs from most recommendations and explain the factors of overriding importance overruling the adoption of suggestions. Reviewer's statements should be set forth in a "comment" and discussed in a "response." In addition, the source of all comments should be clearly identified, and copies of the comments should be attached to the final EIS. Summaries of comments should be attached when a response has been exceptionally long or the same comments were received from many reviewers.

§ 6.306 Documentation.

All books, research reports, field study reports, correspondence and other documents which provided the data base for evaluating the proposed action and alternatives discussed in the EIS shall be used as references in the body of the EIS and shall be included in a bibliography attached to the EIS.

Subpart D—EPA Public Hearings on EIS's

§ 6.400 General.

While EPA is not required by statute to hold public hearings on EIS's, the responsible official should hold a public hearing on a draft EIS whenever a hearing may facilitate the resolution of conflicts or significant public controversy. This hearing may be in addition to public hearings held on facilities plans or section 209 plans. The responsible official may take special measures to involve interested persons through personal contact.

§ 6.402 Public hearing process.

(a) When public hearings are to be held, EPA shall inform the public of the hearing, for example, with a notice in the draft EIS. The notice should follow the summary sheet at the beginning of the EIS. The draft EIS shall be available for public review at least thirty (30) days before the public hearing. Public notice shall be given at least fifteen (15) working days before the public hearing and shall include:

(1) Publication of a public notice in a newspaper which covers the project area, identifying the project, announcing the date, time and place of the hearing and announcing the availability of detailed information on the proposed action for public inspection at one or more locations in the area in which the project will be located. "Detailed information" shall include a copy of the project application and the draft EIS.

(2) Notification of appropriate State and local agencies and appropriate State, regional and metropolitan clearinghouses.

(3) Notification of interested persons.

(b) A written record of the hearing shall be made. A stenographer may be used to record the hearing. As a minimum, the record shall contain a list of witnesses with the text of each presentation. A summary of the record, including the issues raised, conflicts resolved and unresolved, and any other significant portions of the record, shall be appended to the final EIS.

(c) When a public hearing has been held by another Federal, State, or local agency on an EPA action, additional hearings are not necessary. The responsible official shall decide if additional hearings are needed.

(d) When a program office is the originating office, the appropriate regional office will provide assistance to the originating office in holding any public hearing if assistance is requested.

Subpart E—Guidelines for Compliance With NEPA in the Title II Wastewater Treatment Works Construction Grants Program and the Areawide Waste Treatment Management Planning Program

§ 6.500 Purpose.

This subpart amplifies the general EPA policies and procedures described in Subparts A through D with detailed procedures for compliance with NEPA in the wastewater treatment works construction grants program and the areawide waste treatment management planning program.

§ 6.502 Definitions.

(a) "Step 1 grant." A grant for preparation of a facilities plan as described in 40 CFR 35.930–1.

(b) "Step 2 grant." A grant for preparation of construction drawings and specifications as described in 40 CFR 35.930–1.

(c) "Step 3 grant." A grant for fabrication and building of a publicly owned treatment works as described in 40 CFR 35.930–1.

§ 6.504 Applicability.

(a) *Administrative actions covered.* This subpart applies to the administrative actions listed below:

(1) Approval of all section 208 plans according to procedures in 40 CFR 35.1067–2;

(2) Approval of all facilities plans except those listed in paragraph (a)(5) of this section;

(3) Award of step 2 and step 3 grants, if an approved facilities plan was not required;

(4) Award of a step 2 or step 3 grant when either the project or its impact has changed significantly from that described in the approved facilities plan, except when the situation in paragraph (a)(5) of this section exists;

(5) Consultation during the NEPA review process. When there are overriding considerations of cost or impaired program effectiveness, the Regional Administrator may award a step 2 or a step 3 grant for a discrete segment of the project plans or construction before the NEPA review is completed if this project segment is noncontroversial. The remaining portion of the project shall be evaluated to determine if an EIS is required. In applying the criteria for this determination, the entire project shall be considered, including those parts permitted to proceed. In no case may these types of step 2 or step 3 grants be awarded unless both the Office of Federal Activities and CEQ have been consulted, a negative declaration has been issued on the segments permitted to proceed, and the grant award contains a specific agreement prohibiting action on the segment of planning or construction for which the NEPA review is not complete. Examples of consultation during the NEPA review process are: award of a step 2 grant for preparation of plans and specifications for a large treatment plant, when the only unresolved NEPA issue is where to locate the sludge disposal site; or award of a step 3 grant for site clearance for a large treatment plant, when the unresolved NEPA issue is whether sludge from the plant should be incinerated at the site or disposed of elsewhere by other means.

(b) *Administrative actions excluded.* The actions listed below are not subject to the requirements of this part:

(1) Approval of State priority lists;

(2) Award of a step 1 grant;

(3) Award of a section 208 planning grant;

(4) Award of a step 2 or step 3 grant when no significant changes in the facilities plan have occurred;

(5) Approval of issuing an invitation for bid or awarding a construction contract;

(6) Actual physical commencement of building or fabrication;

(7) Award of a section 206 grant for reimbursement;

(8) Award of grant increases whenever § 6.504(a)(4) does not apply;

(9) Awards of training assistance under FWPCA, as amended, section 109(b).

(c) *Retroactive application.* The new criteria in § 6.510 of this subpart do not apply to step 2 or step 3 grants awarded before July 1, 1975. However, the Regional Administrator may apply the new criteria of this subpart when he considers it appropriate. Any negative declarations issued before the effective date of this regulation shall remain in effect.

§ 6.506 Completion of NEPA procedures before start of administrative actions.

See § 6.108 and § 6.504.

§ 6.510 Criteria for preparation of environmental impact statements.

In addition to considering the criteria in § 6.200, the Regional Administrator shall assure that an EIS will be prepared on a treatment works facilities plan, 208 plan or other appropriate water quality management plan when:

(a) The treatment works or plan will induce significant changes (either absolute changes or increases in the rate of change) in industrial, commercial, agricultural, or residential land use concentrations or distributions. Factors that should be considered in determining if these changes are significant include but are not limited to: the vacant land subject to increased development pressure as a result of the treatment works; the increases in population which may be induced; the faster rate of change of population; changes in population density; the potential for overloading sewage treatment works; the extent to which landowners may benefit from the areas subject to increased development; the nature of land use regulations in the affected area and their potential effects on development; and deleterious changes in the availability or demand for energy.

(b) Any major part of the treatment works will be located on productive wetlands or will have significant adverse effects on wetlands, including secondary effects.

(c) Any major part of the treatment works will be located on or significantly affect the habitat of wildlife on the Department of Interior's threatened and endangered species lists.

(d) Implementation of the treatment works or plan may directly cause or induce changes that significantly:

(1) Displace population;

(2) Deface an existing residential area; or

(3) Adversely affect significant amounts of prime agricultural land or agricultural operations on this land.

(e) The treatment works or plan will have significant adverse effects on parklands, other public lands or areas of recognized scenic, recreational, archaeological or historic value.

(f) The works or plan may directly or through induced development have a significant adverse effect upon local ambient air quality, local ambient noise levels, surface or groundwater quantity or quality, fish, wildlife, and their natural habitats.

(g) The treated effluent is being discharged into a body of water where the present classification is too lenient or is being challenged as too low to protect present or recent uses, and the effluent will not be of sufficient quality to meet the requirements of these uses.

§ 6.512 Procedures for implementing NEPA.

(a) *Environmental assessment.* An adequate environmental assessment must be an integral, though identifiable, part of any facilities or section 208 plan submitted to EPA. (See § 6.202 for a general description.) The information in the facilities plan, particularly the environmental assessment, will provide the substance of an EIS and shall be submitted by the applicant. The analyses that constitute an adequate environmental assessment shall include:

(1) *Description of the existing environment without the project.* This shall include for the delineated planning area a description of the present environmental conditions relevant to the analysis of alternatives or determinations of the environmental impacts of the proposed action. The description shall include, but not be limited to, discussions of whichever areas are applicable to a particular study: surface and groundwater quality; water supply and use; general hydrology; air quality; noise levels, energy production and consumption; land use trends; population projections, wetlands, floodplains, coastal zones and other environmentally sensitive areas; historic and archaeological sites; other related Federal or State projects in the area; and plant and animal communities which may be affected, especially those containing threatened or endangered species.

(2) *Description of the future environment without the project.* The future environmental conditions with the no project alternative shall be forecast, covering the same areas listed in § 6.512 (a)(1).

(3) *Documentation.* Sources of information used to describe the existing environment and to assess future environmental impacts should be documented. These sources should include regional, State and Federal agencies with responsibility or interest in the types of impacts listed in § 6.512(a)(1). In particular, the following agencies should be consulted:

(i) Local and regional land use planning agencies for assessments of land use trends and population projections, especially those affecting size, timing, and location of facilities, and planning activities funded under section 701 of the Housing and Community Development Act of 1974 (Pub. L. 93-383);

(ii) The HUD Regional Office if a project involves a flood risk area identified under the Flood Disaster Protection Act of 1973 (Pub. L. 93-234);

(iii) The State coastal zone management agency, if a coastal zone is affected;

(iv) The Secretary of the Interior or Secretary of Agriculture, if a wild and scenic river is affected;

(v) The Secretary of the Interior or Secretary of Commerce, if a threatened or endangered species is affected;

(vi) The Fish and Wildlife Service (Department of Interior), the Department of Commerce, and the U.S. Army Corps of Engineers, if a wetland is affected.

(4) *Evaluation of alternatives.* This discussion shall include a comparative analysis of feasible options and a systematic development of wastewater treatment alternatives. The alternatives shall be screened with respect to capital and operating costs; significant primary and secondary environmental effects; physical, legal or institutional constraints; and whether or not they meet regulatory requirements. Special attention should be given to long term impacts, irreversible impacts and induced impacts such as development. The reasons for rejecting any alternatives shall be presented in addition to any significant environmental benefits precluded by rejection of an alternative. The analysis should consider, when relevant to the project:

(i) Flow and waste reduction measures, including infiltration/inflow reduction;

(ii) Alternative locations, capacities, and construction phasing of facilities;

(iii) Alternative waste management techniques, includign treatment and discharge, wastewater reuse and land application;

(iv) Alternative methods for disposal of sludge and other residual waste, including process options and final disposal options;

(v) Improving effluent quality through more efficient operation and maintenance;

(vi) For assessments associated with section 208 plans, the analysis of options shall include in addition:

(A) Land use and other regulatory controls, fiscal controls, non-point source controls, and institutional arrangements; and

(B) Land management practices.

(5) *Environmental impacts of the proposed action.* Primary and secondary impacts of the proposed action shall be described, giving special attention to unavoidable impacts, steps to mitigate adverse impacts, any irreversible or irretrievable commitments of resources to the project and the relationship between local short term uses of the environment and the maintenance and enhancement of long term productivity. See § 6.304 (c), (d), (e), and (f) for an explanation of these terms and examples. The significance of land use impacts shall be evaluated, based on current population of the planning area; design year population for the service area; percentage of the service area currently vacant; and plans for staging facilities. Special attention should be given to induced changes in population patterns and growth, particularly if a project involves some degree of regionalization. In addition to these items, the Regional Administrator may require that other analyses and data, which he determines are needed to comply with NEPA, be included with the facilities or section 208 plan. Such requirements should be discussed during preapplication conferences. The Regional Administrator also may require submission of supplementary information either before or after a step 2 grant or before a step 3 grant award if he determines it is needed for compliance with NEPA. Requests for supplementary information shall be made in writing.

(6) *Steps to minimize adverse effects.* This section shall describe structural and

nonstructural measures, if any, in the facilities plan to mitigate or eliminate significant adverse effects on the human and natural environments. Structural provisions include changes in facility design, size, and location; nonstructural provisions include staging facilities as well as developing and enforcing land use regulations and environmentally protective regulations.

(b) *Public hearing.* The applicant shall hold at least one public hearing before a facilities plan is adopted, unless waived by the Regional Administrator before completion of the facilities plan according to § 35.917-5 of the Title II construction grants regulations. Hearings should be held on section 208 plans. A copy of the environmental assessment should be available for public review before the hearing and at the hearing, since these hearings provide an opportunity to accept public input on the environmental issues associated with the facilities plan or the 208 water quality management strategy. In addition, a Regional Administrator may elect to hold an EPA hearing if environmental issues remain unresolved. EPA hearings shall be held according to procedures in § 6.402.

(c) *Environmental review.* An environmental review of a facilities plan or section 208 plan shall be conducted according to the procedures in § 6.304 and applying the criteria of § 6.510. If deficiencies exist in the environmental assessment, they shall be identified in writing by the Regional Administrator and must be corrected before the plan can be approved.

(d) *Additional procedures.* (1) Historic and archaeological sites. If a facilities or section 208 plan may affect properties with historic, architectural, archaeological or cultural value which are listed in or eligible for listing in the National Register of Historic Places or may cause irreparable loss or destruction of significant scientific, prehistoric, historic or archaeological data, the applicant shall follow the procedures in § 6.214(a).

(2) If the facilities or section 208 plan may affect wetlands, floodplains, coastal zones, wild and scenic rivers, fish or wildlife, the Regional Administrator shall follow the appropriate procedures described in § 6.214(b).

(e) *Notice of intent.* The notice of intent on a facilities plan or section 208 plan shall be issued according to § 6.206.

(f) *Scope of EIS.* It is the Regional Administrator's responsibility to determine the scope of the EIS. He should determine if an EIS should be prepared on a facilities plan(s) or section 208 plan and which environmental areas should be discussed in greatest detail in the EIS. Once an EIS has been prepared for the designated section 208 area, another need not be prepared unless the significant impacts of individual facilities or other plan elements were not adequately treated in the EIS. The Regional Administrator should document his decision not to prepare an EIS on individual facilities.

(g) *Negative declaration.* A negative declaration on a facilities plan or section 208 plan shall be prepared according to § 6.212. Once a negative declaration and environmental appraisal have been prepared for the facilities plan for a certain area, grant awards may proceed without preparation of additional negative declarations, unless the project has changed significantly from that described in the facilities plan.

§ 6.514 Content of environmental impact statements.

EIS's for treatment works or plans shall be prepared according to § 6.304.

Subpart F—Guidelines for Compliance With NEPA in Research and Development Programs and Activities

§ 6.600 Purpose.

This subpart amplifies the general EPA policies and procedures described in Subparts A through D by providing procedures for compliance with NEPA on actions undertaken by the Office of Research and Development (ORD).

§ 6.602 Definitions.

(a) "Work plan." A document which defines and schedules all projects required to fulfill the objectives of the program plan.

(b) "Program plan." An overall planning document for a major research area which describes one or more research objectives, including outputs and target completion dates, as well as person-year and dollar resources.

(c) "Appropriate program official." The official at each decision level within ORD to whom the Assistant Administrator delegates responsibility for NEPA compliance.

(d) "Exemption certification." A certified statement delineating those actions specifically exempted from NEPA compliance by existing legislation.

§ 6.604 Applicability.

The requirements of this subpart are applicable to administrative actions undertaken to approve program plans, work plans, and projects, except those plans and projects excluded by existing legislation. However, no administrative actions are excluded from the additonal procedures in § 6.214 of this part concerning historic sites, wetlands, coastal zones, wild and scenic rivers, floodplains or fish and wildlife.

§ 6.608 Criteria for determining when to prepare EIS's.

(a) An EIS shall be prepared by ORD when any of the criteria in § 6.200 apply or when:

(1) The action will have significant adverse impacts on public parks, wetlands, floodplains, coastal zones, wildlife habitats, or areas of recognized scenic or recreational value.

(2) The action will significantly deface an existing residential area.

(3) The action may directly or through induced development have a significant adverse effect upon local ambient air quality, local ambient noise levels, surface or groundwater quality; and fish, wildlife or their natural habitats.

(4) The treated effluent is being discharged into a body of water where the present classification is being challenged as too low to protect present or recent uses, and the effluent will not be of sufficient quality to meet the requirements of these uses.

(5) The project consists of field tests involving the introduction of significant quantities of: toxic or polluting agricultural chemicals, animal wastes, pesticides, radioactive materials, or other hazardous substances into the environment by ORD, its grantees or its contractors.

(6) The action may involve the introduction of species or subspecies not indigenous to an area.

(7) There is a high probability of an action ultimately being implemented on a large scale, and this implementation may result in significant environmental impacts.

(8) The project involves commitment to a new technology which is significant and may restrict future viable alternatives.

(b) An EIS will not usually be needed when:

(1) The project is conducted completely within a laboratory or other facility, and external environmental effects have been minimized by methods for disposal of laboratory wastes and safeguards to prevent hazardous materials entering the environment accidentally; or

(2) The project is a relatively small experiment or investigation that is part of a non-Federally funded activity of the private sector, and it makes no significant new or additional contribution to existing pollution.

§ 6.610 Procedures for compliance with NEPA.

EIS related activities for compliance with NEPA will be integrated into the decision levels of ORD's research planning system to assure managerial control. This control includes those administrative actions which do not come under the applicability of this subpart by assuring that they are made the subject of an exemption certification and filed with the Office of Public Affairs (OPA). ORD's internal procedures provide details for NEPA compliance.

(a) *Environmental assessment.* (1) Environmental assessments shall be submitted with all grant applications and all unsolicited contract proposals. The assessment shall contain the same information required for EIS's in § 6.304. Copies of § 6.304 (or more detailed guidance when available) and a notice of the requirement for assessment shall be included in all grant application kits and attached to letters concerning the submission of unsolicited proposals.

(2) In the case of competitive contracts, assessments need not be submitted by potential contractors since the NEPA procedures must be completed before a request for proposal (RFP) is issued. If there is a question concerning

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the need for an assessment, the potential contractor should contact the official responsible for the contract.

(b) *Environmental review.* (1) At the start of the planning year, an environmental review will be performed for each program plan with its supporting substructures (work plans and projects) before incorporating them into the ORD program planning system, unless they are excluded from review by existing legislation. This review is an evaluation of the potentially adverse environmental effects of the efforts required by the program plan. The criteria in § 6.608 shall be used in conducting this review. Each program plan with its supporting substructures which does not have significant adverse impacts may be dismissed from further current year environmental considerations with a single negative declaration. Any supporting substructures of a program plan which cannot be dismissed with the parent plan shall be reviewed at the appropriate subordinate levels of the planning system for NEPA compliance.

(i) All continuing program plans and supporting substructures, including those previously dismissed from consideration, will be reevaluted annually for NEPA compliance. An environmental review will coincide with the annual planning cycle and whenever a major redirection of a parent plan is undertaken. All NEPA-associated documents will be updated as appropriate.

(ii) All approved program plans and supporting substructures, less budgetary data, will be filed in the OPA with a notice of intent or negative declaration and environmental appraisal.

(iii) Later plans and/or projects added to fulfill the mission objectives but not identified at the time the program plans were approved, will be subjected to the same NEPA requirements for environmental assessments and/or reviews.

(iv) Those projects subjected to environmental assessments as outlined in paragraph (a) of this section and not exempt under existing legislation also shall undergo an environmental review before work begins.

(c) *Notice of intent and EIS.*

(1) If the reviews conducted according to paragraph (b) of this section reveal a potentially significant adverse effect on the environment and the adverse impact cannot be eliminated by replanning, the appropriate program official shall, after making sure the project is to be funded, issue a notice of intent according to § 6.206, and through proper organizational channels, shall request the Regional Administrator to assist him in the preparation and distribution of the EIS

(2) As soon as possible after release of the notice of intent, the appropriate program official shall prepare a draft EIS using the criteria in Subpart B, § 6.208 and Subpart C. Through proper organizational channels, he shall request the Regional Administrator to assist him in the preparation and distribution of the draft EIS.

(3) The appropriate program official shall prepare final EIS's according to criteria in Subpart B, § 6.210 and Subpart C.

(4) All draft and final EIS's shall be sent through the proper organizational channels to the Assistant Administrator for ORD for approval. The approved statements then will be distributed according to the procedures in Appendix C.

(d) *Negative declaration and environmental impact appraisal.* If an environmental review conducted according to paragraph (b) of this section reveals that proposed actions will not have significant adverse environmental impacts, the appropriate program official shall prepare a negative declaration and environmental impact appraisal according to Subpart B, § 6.212. Upon assurance that the program will be funded, the appropriate program official shall distribute the negative declaration as described in § 6.212 and make copies of the negative declaration and appraisal available in the OPA.

(e) *Project start.* As required by § 6.108, a contract or grant shall not be awarded for an extramural project, nor for continuation of what was previously an intramural project, until at least fifteen (15) working days after a negative declaration has been issued or thirty (30) days after forwarding the final EIS to the Council on Environmental Quality.

Subpart G—Guidelines for Compliance With NEPA in Solid Waste Management Activities

§ 6.700 Purpose.

This subpart amplifies the general policies and procedures described in Subparts A through D by providing additional procedures for compliance with NEPA on actions undertaken by the Office of Solid Waste Management Programs (OSWMP).

§ 6.702 Criteria for the preparation of environmental assessments and EIS's.

(a) *Assessment preparation criteria.* An environmental assessment need not be submitted with all grant applications and contract proposals. Studies and investigations do not require assessments. The following sections describe when an assessment is or is not required for other actions:

(1) *Grants.* (i) *Demonstration projects.* Environmental assessments must be submitted with all applications for demonstration grants that will involve construction, land use (temporary or permanent), transport, sea disposal, any discharges into the air or water, or any other activity having any direct or indirect effects on the environment external to the facility in which the work will be conducted. Preapplication proposals for these grants will not require environmental assessments.

(ii) *Training.* Grant applications for training of personnel will not require assessments.

(iii) *Plans.* Grant applications for the development of comprehensive State, interstate, or local solid waste management plans will not require environmental assessments. A detailed analysis of environmental problems and effects should be part of the planning process, however.

(2) *Contracts.* (i) *Sole-source contract proposals.* Before a sole-source contract can be awarded, an environmental assessment must be submitted with a bid proposal for a contract which will involve construction, land use (temporary or permanent), sea disposal, any discharges into the air or water, or any other activity that will directly or indirectly affect the environment external to the facility in which the work will be performed.

(ii) *Competitive contract proposals.* Assessments generally will not be required on competitive contract proposals.

(b) *EIS preparation criteria.* The responsible official shall conduct an environmental review on those OSWMP projects on which an assesment is required or which may have effects on the environment external to the facility in which the work will be performed. The criteria in § 6.200 shall be utilized in determining whether an EIS need be prepared.

§ 6.704 Procedures for compliance with NEPA.

(a) *Environmental assessment.* (1) Environmental assessments shall be submitted to EPA according to procedures in § 6.702. If there is a question concerning the need for an assessment, the potential contractor or grantee should consult with the appropriate project officer for the grant or contract.

(2) The assessment shall contain the same sections specified for EIS's in § 6.304. Copies of § 6.304 (or more detailed guidance when available) and a notice alerting potential grantees and contractors of the assessment requirements in § 6.702 shall be included in all grant application kits, attached to letters concerning the submission of unsolicited proposals, and included with all RFP's.

(b) *Environmental review.* An environmental review will be conducted on all projects which require assessments or which will affect the environment external to the facility in which the work will be performed. This review must be conducted before a grant or contract award is made on an extramural project or before an intramural project begins. The guidelines in § 6.200 will be used to determine if the project will have any significant environmental effects. This review will include an evaluation of the assessment by both the responsible official and the appropriate Regional Administrator. The Regional Administrator's comments will include his recommendations on the need for an EIS. No detailed review or documentation is required on projects for which assessments are not required and which will not affect the environment external to a facility.

(c) *Notice of intent and EIS.* If any of the criteria in § 6.200 apply, the responsible official will assure that a notice

of intent and a draft EIS are prepared. The responsible official may request the appropriate Regional Administrator to assist him in the distribution of the NEPA-associated documents. Distribution procedures are listed in Appendix C.

(d) *Negative declaration and environmental impact appraisal.* If the environmental review indicated no significant environmental impacts, the responsible official will assure that a negative declaration and environmental appraisal are prepared. These documents need not be prepared for projects not requiring an environmental review.

(e) The EIS process for the Office of Solid Waste Management Programs is shown graphically in Exhibit 7.

Subpart H—Guidelines for Compliance With NEPA in Construction of Special Purpose Facilities and Facility Renovations

§ 6.800 Purpose.

This subpart amplifies general EPA policies and procedures described in Subparts A through D by providing detailed procedures for the preparation of EIS's on construction and renovation of special purpose facilities.

§ 6.802 Definitions.

(a) "Special purpose facility." A building or space, including land incidental to its use, which is wholly or predominantly utilized for the special purpose of an agency and not generally suitable for other uses, as determined by the General Services Administration.

(b) "Program of requirements." A comprehensive document (booklet) describing program activities to be accomplished in the new special purpose facility or improvement. It includes architectural, mechanical, structural, and space requirements.

(c) "Scope of work." A document similar in content to the program of requirements but substantially abbreviated. It is usually prepared for small-scale projects.

§ 6.804 Applicability.

(a) *Actions covered.* These guidelines apply to all new special purpose facility construction, activities related to this construction (e.g., site acquisition and clearing), and any improvements or modifications to facilities having potential environmental effects external to the facility, including new construction and improvements undertaken and funded by the Facilities Management Branch, Facilities and Support Services Division, Office of Administration; by a regional office; or by a National Environmental Research Center.

(b) *Actions excluded.* This subpart does not apply to those activities of the Facilities Management Branch, Facilities and Support Services Division, for which the branch does not have full fiscal responsibility for the entire project. This includes pilot plant construction, land acquisition, site clearing and access road construction where the Facilities Management Branch's activity is only supporting a project financed by a program office. Responsibility for considering the environmental impacts of such projects rests with the office managing and funding the entire project. Other subparts of this regulation apply depending on the nature of the project.

§ 6.808 Criteria for the preparation of environmental assessments and EIS's.

(a) *Assessment preparation criteria.* The responsible official shall request an environmental assessment from a construction contractor or consulting architect/engineer employed by EPA if he is involved in the planning, construction or modification of special purpose facilities when his activities have potential environmental effects external to the facility. Such modifications include but are not limited to: facility additions, changes in central heating systems or wastewater treatment systems, and land clearing for access roads and parking lots.

(b) *EIS preparation criteria.* The responsible official shall conduct an environmental review of all actions involving construction of special purpose facilities and improvements to these facilities. The guidelines in § 6.200 shall be used to determine whether an EIS shall be prepared.

§ 6.810 Procedures for compliance with NEPA.

(a) *Environmental review and assessment.* (1) An environmental review shall be conducted when the program of requirements or scope of work has been completed for the construction, improvement, or modification of special purpose facilities. For special purpose facility construction, the Chief, Facilities Management Branch, shall request the assistance of the appropriate program office and Regional Administrator in the review. For modifications and improvements, the appropriate responsible official shall request assistance in making the review from other cognizant EPA offices.

(2) Any assessments requested shall contain the same sections listed for EIS's in § 6.304. Contractors and consultants shall be notified in contractual documents when an assessment must be prepared.

(b) *Notice of intent, EIS, and negative declaration.* The responsible official shall decide at the completion of the environmental review whether there may be any significant environmental impacts. If there could be significant environmental impacts, a notice of intent and an EIS shall be prepared according to the procedures in § 6.200. If there may not be any significant environmental impacts, a negative declaration and environmental impact appraisal shall be prepared according to the procedures in § 6.212.

(c) *Project start.* As required by § 6.108, a contract shall not be awarded or construction-related activities begun until at least fifteen (15) working days after release of a negative declaration, or until thirty (30) days after forwarding the final EIS to the Council on Environmental Quality.

EXHIBIT 1

NOTICE OF INTENT TRANSMITTAL MEMORANDUM SUGGESTED FORMAT

.....
(Date)

ENVIRONMENTAL PROTECTION AGENCY

.....
(Appropriate Office)

.....
(Address, City, State, Zip Code)

To All Interested Government Agencies and Public Groups:

As required by guidelines for the preparation of environmental impact statements (EIS's), attached is a notice of intent to prepare an EIS for the proposed EPA action described below:

.....
(Official Project Name and Number)

.....
(City, State)

If your organization needs additional information or wishes to participate in the preparation of the draft EIS, please advise the (appropriate office, city, State).

Very truly yours,

.....
(Appropriate EPA Official)

(List Federal, State, and local agencies to be solicited for comment.)

(List public action groups to be solicited for comment.)

NOTICE OF INTENT SUGGESTED FORMAT

NOTICE OF INTENT—ENVIRONMENTAL PROTECTION AGENCY

1. Project location:
   City .....
   County .....
   State .....
2. Proposed EPA action:
   .....
   .....
   .....
3. Issues involved:
   .....
   .....
   .....
   .....
4. Estimated project costs:
   Federal Share (total)..... $.....
   Contract $..... Grant $..... Other $.....
   Applicant share (if any):
   (Name) .....$.....
   Other (specify).....$.....
   Total .....$.....
5. Period covered by project:
   Start date:.....
   (Original date, if project covers more than one year)
   Dates of different project phases:.....
   Approximate end date:.....
6. Estimated application filing date:.....

EXHIBIT 2

PUBLIC NOTICE AND NEWS RELEASE SUGGESTED FORMAT

PUBLIC NOTICE

The Environmental Protection Agency (originating office) (will prepare, will not prepare, has prepared) a (draft, final) environmental impact statement on the following project:

.....
(Official Project Name and Number)

.....
(Purpose of Project)

.....
(Project Location, City, County, State)

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.....
(Where EIS or negative declaration and environmental impact appraisal can be obtained)

This notice is to implement EPA's policy of encouraging public participation in the decision-making process on proposed EPA actions. Comments on this document may be submitted to (full address of originating office).

EXHIBIT 3

NEGATIVE DECLARATION SUGGESTED FORMAT

.....
(Date)

ENVIRONMENTAL PROTECTION AGENCY

.....
(Appropriate Office)

.....
(Address, City, State, Zip Code)

To All Interested Government Agencies and Public Groups:

As required by guidelines for the preparation of environmental impact statements (EIS s), an environmental review has been performed on the proposed EPA action below:

.....
(Official Project Name and Number)

.....
(Potential Agency Financial Share)

.....
(Project Location: City, County, State)

.....
(Other Funds Included)

PROJECT DESCRIPTION, ORIGINATOR, AND PURPOSE

(Include a map of the project area and a brief narrative summarizing the growth the project will serve, the percent of vacant land the project will serve, major primary and secondary impacts of the project, and the purpose of the project.)

The review process did not indicate significant environmental impacts would result from the proposed action or significant adverse impacts have been eliminated by making changes in the project. Consequently, a preliminary decision not to prepare an EIS has been made.

This action is taken on the basis of a careful review of the engineering report, environmental impact assessment, and other supporting data, which are on file in the above office with the environmental impact appraisal and are available for public scrutiny upon request. Copies of the environmental impact appraisal will be sent at cost on your request.

Comments supporting or disagreeing with this decision may be submitted for consideration by EPA. After evaluating the comments received, the Agency will make a final decision; however, no administrative action will be taken on the project for at least fifteen (15) working days after release of the negative declaration.

Sincerely,

.....
(Appropriate EPA Official)

EXHIBIT 4

ENVIRONMENTAL IMPACT APPRAISAL SUGGESTED FORMAT

A. Identify Project.
Name of Applicant: .....
Address: .....
Project Number: .....

B. Summarize Assessment
1. Brief description of project: .....
.....
2. Probable impact of the project on the environment: .....
.....
.....
.....
3. Any probable adverse environmental effects which cannot be avoided: .....
.....
.....
4. Alternatives considered with evaluation of each: .....
.....
.....
.....
5. Relationship between local short-term uses of man's environment and maintenance and enhancement of long-term productivity: .....
.....
6. Steps to minimize harm to the environment: .....
.....
7. Any irreversible and irretrievable commitment of resources: .....
.....
8. Public objections to project, if any, and their resolution: .....
.....
9. Agencies consulted about the project: ..
.....
.....
State representative's name: .....
Local representative's name: .....
Other: .....

C. Reasons for concluding there will be no significant impacts.

.....
(Signature of appropriate official)
(Date)

EXHIBIT 5

COVER SHEET FORMAT FOR ENVIRONMENTAL IMPACT STATEMENTS

(Draft, Final)

ENVIRONMENTAL IMPACT STATEMENT

.....
.....
(Describe title of project plan and give identifying number)

Prepared by: .....
(Responsible Agency Office)

Approved by: .....
(Responsible Agency Official)

.....
(Date)

EXHIBIT 6

SUMMARY SHEET FORMAT FOR ENVIRONMENTAL IMPACT STATEMENTS

(Check One)
( ) Draft
( ) Final

ENVIRONMENTAL PROTECTION AGENCY

.....
(Responsible Agency Office)

1. Name of action. (Check one)
( ) Administrative action.
( ) Legislative action.
2. Brief description of action indicating what States (and counties) are particularly affected.
3. Summary of environmental impact and adverse environmental effects.
4. List alternatives considered.
5. a. (for draft statements) List all Federal State, and local agencies and other comments have been requested.
b. (for final statements) List all Federal State, and local agencies and other sources from which written comments have been received.
6. Dates draft statement and final statement made available to Council on Environmental Quality and public.

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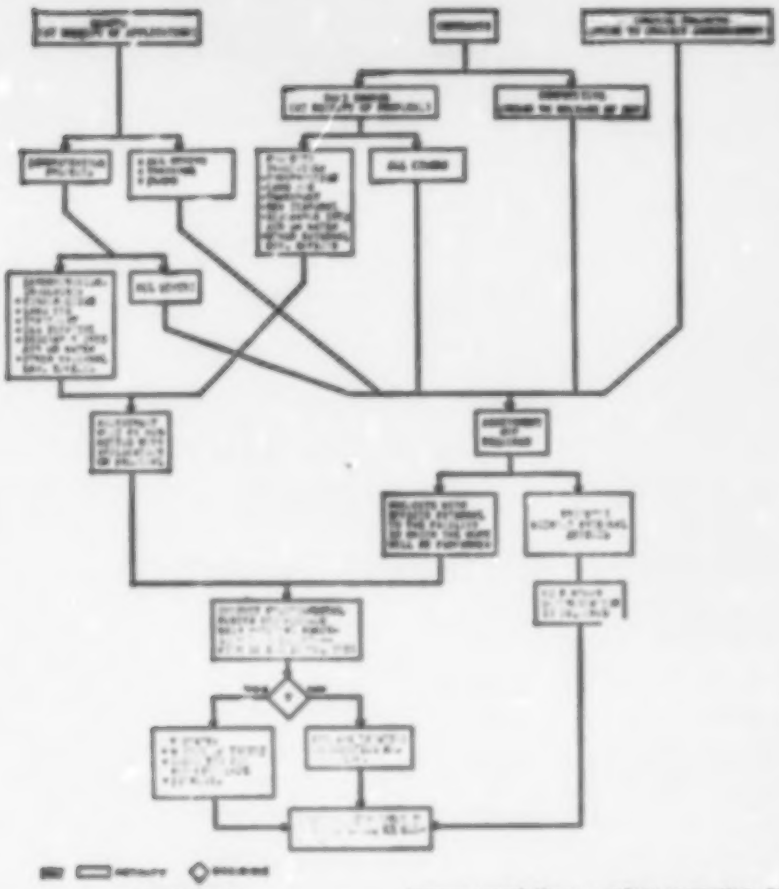
EXHIBIT 1

FLOWCHART FOR EISRP



APPENDIX A

CHECKLIST FOR ENVIRONMENTAL REVIEWS

Areas to be considered, when appropriate, during an environmental review include, but are not limited to, the items on this checklist, based on Appendix II of the CEQ guidelines for the preparation of environmental impact statements which appeared in the FEDERAL REGISTER August 1, 1973. The classification of items is not mandatory.

I. *Natural environment.* Consider the impacts of a proposed action on air quality, water supply and quality, soil conservation and hydrology, fish and wildlife populations, fish and wildlife habitats, solid waste disposal, noise levels, radiation, and hazardous substances use and disposal.

II. *Land use planning and management.* Consider the impacts of a proposed action on energy supply and natural resources development, protection of environmentally critical areas, such as floodplains, wetlands, beaches and dunes, unstable soils, steep slopes and aquifer recharge areas, coastal area land use, and redevelopment and construction in built-up areas.

III. *Socioeconomic environment.* Consider the impacts of a proposed action on population density changes, congestion mitigation, neighborhood character and cohesion, low income populations, outdoor recreation, industrial/commercial/residential development and tax ratables, and historic, architectural and archaeological preservation.

APPENDIX B

RESPONSIBILITIES

I. *General responsibilities.* (a) *Responsible official.* (1) Requires contractors and grantees to submit environmental assessments and related documents needed to comply with NEPA, and ensures environmental reviews are conducted on proposed EPA projects at the earliest possible point in EPA's decision-making process.

(2) When required, ensures that draft EIS's are prepared and distributed at the earliest possible point in EPA's decision-making process, their internal and external review is coordinated, and final EIS's are prepared and distributed.

(3) When an EIS is not prepared, ensures that negative declarations and environmental appraisals are prepared and distributed for those actions requiring them.

(4) Consults with appropriate officials identified in § 6.214 of this part.

(5) Consults with the Office of Federal Activities on actions involving unresolved conflicts with other Federal agencies.

(b) *Office of Federal Activities.* (1) Provides EPA with policy guidance and ensures that EPA offices establish and maintain adequate administrative procedures to comply with this part.

(2) Monitors the overall timeliness and quality of the EPA effort to comply with this part.

(3) Provides assistance to responsible officials as required.

(4) Coordinates the training of personnel involved in the review and preparation of EIS's and other NEPA-associated documents.

(5) Acts as EPA liaison with the Council on Environmental Quality and other Federal and State entities on matters of EPA policy and administrative mechanisms to facilitate external review of EIS's, to determine lead agency and to improve the uniformity of the NEPA procedures of Federal agencies.

(6) Advises the Administrator and Deputy Administrator on projects which involve more than one EPA office, are controversial, are nationally significant, or "pioneer" EPA policy when these projects have had or should have an EIS prepared on them.

(c) *Office of Public Inquiries.* Assists the Office of Federal Activities and responsible officials by answering the public's queries on the EIS process and on specific EIS's and by directing requests for copies of specific documents to the appropriate regional office or program.

(d) *Office of Public Affairs.* Analyzes the present procedures for public participation, and develops and recommends to the Office of Federal Activities a program to improve those procedures and increase public participation.

(e) *Regional Office Division of Public Affairs.* (1) Assists the responsible official or his designee on matters pertaining to negative declarations, notices of intent, press releases, and other public notification procedures.

(2) Assists the responsible official or his designee by answering the public's queries on the EIS process and on specific EIS's, and by filling requests for copies of specific documents.

(f) *Offices of the Assistant Administrators and Regional Administrators.* (1) Provides specific policy guidance to their respective offices and ensures that those offices establish and maintain adequate administrative procedures to comply with this part.

(2) Monitors the overall timeliness and quality of their respective offices' efforts to comply with this part.

(3) Acts as liaison between their offices and the Office of Federal Activities and between their offices and other Assistant Administrators or Regional Administrators on matters of agencywide policy and procedures.

(4) Advises the Administrator and Deputy Administrator through the Office of Federal Activities on projects or activities within their respective areas of responsibilities which involve more than one EPA office, are controversial, are nationally significant, or "pioneer" EPA policy, when these projects have had or should have an EIS prepared on them.

(g) *The Office of Legislation.* (1) Provides the necessary liaison with Congress.

(2) Coordinates the preparation of EIS's required on reports on legislation originating outside EPA. (See § 6.106(d)).

(h) *The Office of Planning and Evaluation.* Coordinates the preparation of EIS's required on EPA legislative proposals. (See § 6.106 (d)).

II. *Responsibilities for Title II Construction Grants Program (Subpart E).* (a) *Responsible official.* The responsible official for EPA actions covered by this subpart is the Regional Administrator. The responsibilities

of the Regional Administrator in addition to those in Appendix B I. are to:

(1) Assist the Office of Federal Activities in coordinating the training of personnel involved in the review and preparation of NEPA-associated documents.

(2) Require grant applicants and those who have submitted plans for approval to provide the information the regional office requires to comply with these guidelines.

(3) Consult with the Office of Federal Activities concerning works or plans which significantly affect more than one regional office, are controversial, are of national significance or "pioneer" EPA policy, when these works have had or should have had an EIS prepared on them.

(b) *Assistant Administrator.* The responsibilities of the Office of the Assistant Administrator, as described in Appendix B I, shall be assumed by the Assistant Administrator for Water and Hazardous Materials for EPA actions covered by this subpart.

(c) Oil and Special Materials Control Division, Office of Water Program Operations, coordinates all activities and responsibilities of the Office of Water Program Operations concerned with preparation and review of EIS's. This includes providing technical assistance to the Regional Administrators on EIS's and assisting the Office of Federal Activities in coordinating the training of personnel involved in the review and preparation of NEPA-associated documents.

(d) *Public Affairs Division, Regional Offices.* The responsibilities of the regions' Public Affairs Divisions, in addition to those in Appendix B I, are to:

(1) Assist the Regional Administrator in the preparation and dissemination of NEPA-associated documents.

(2) Collaborate with the Headquarters Office of Public Affairs to analyze procedures in the regions for public participation and to develop and recommend to the Office of Federal Activities a program to improve those procedures.

III. *Responsibilities for Research and Development Programs (Subpart F).* The Assistant Administrator for Research and Development, in addition to those responsibilities outlined in Appendix B I(a), will also assume the responsibilities described in Appendix B I(f).

IV. *Responsibilities for Solid Waste Management Programs (Subpart G).* (a) *Responsible Official.* The responsible official for EPA actions covered by this subpart is the Deputy Assistant Administrator for Solid Waste Management Programs. The responsibilities of this official, in addition to those in Appendix B I(a), are to:

(1) Assist the Office of Federal Activities in coordinating the training of personnel involved in the review and preparation of all NEPA-associated documents.

(2) Advise the Assistant Administrator for Air and Waste Management concerning projects which significantly affect more than one regional office, are controversial, are nationally significant or "pioneer" EPA policy.

V. *Responsibilities for Special Purpose Facilities and Facility Construction Programs (Subpart H).*

(a) *Responsible official.* The responsible official for new construction and modification of special purpose facilities is as follows:

(1) The Chief, Facilities Management Branch, Data and Support Systems Division, shall be the responsible official on all new construction of special purpose facilities and on all improvement and modification projects for which the Facilities Management Branch has received a funding allowance.

(2) The Regional Administrator shall be the responsible official on all improvement and modification projects for which the regional office has received the funding allowance.

(3) The Center Directors shall be the responsible officials on all improvement and modification projects for which the National Environmental Research Centers have received the funding allowance.

(b) The responsibilities of the responsible officials, in addition to those in Appendix B I, are to:

(1) Ensure that environmental assessments are submitted when requested, that environmental reviews are conducted on all projects, and EIS's are prepared and circulated when there will be significant impacts.

(2) Assist the Office of Federal Activities in coordinating the training of personnel involved in the review and preparation of NEPA-associated documents.

APPENDIX C

DISTRIBUTION AND AVAILABILITY OF DOCUMENTS

I. *Negative Declaration.* (a) The responsible official shall distribute two copies of each negative declaration to:

(1) The appropriate Federal, State and local agencies and to the appropriate State and areawide clearinghouses.

(2) The Office of Legislation, the Office of Public Affairs and the Office of Federal Activities.

(3) The headquarters EIS coordinator for the program office originating the document. When the originating office is a regional office and the action is related to water quality management, one copy should be forwarded to the Oil and Special Materials Control Division, Office of Water Program Operations.

(b) The responsible official shall distribute one copy of each negative declaration to:

(1) Local newspapers and other local mass media.

(2) *Interested persons on request.* If it is not practical to send copies to all interested persons, make the document available through local libraries or post offices, and notify individuals that this action has been taken.

(c) The responsible official shall have a copy of the negative declaration and any documents supporting the negative declaration available for public review at the originating office.

II. *Environmental Impact Appraisal.* (a) The responsible official shall have the environmental impact appraisal available when the negative declaration is distributed and shall forward one copy to the headquarters EIS coordinator for the program office originating the document and to any other Federal or State agency which requests a copy.

(b) The responsible official shall have a copy of the environmental impact appraisal available for public review at the originating office and shall provide copies at cost to persons who request them.

III. *Notice of Intent.* (a) The responsible official shall forward one copy of the notice of intent to:

(1) The appropriate Federal, State and local agencies and to the appropriate State, regional and metropolitan clearing houses.

(2) Potentially interested persons.

(3) The Office of Federal Activities, Public Affairs and Legislation.

(4) The headquarters Grants Administration Division, Grants Information Branch.

(5) The headquarters EIS coordinator for the program office originating the notice. When the originating office is a regional office and the action is related to water quality management, one copy should be forwarded to the Oil and Special Materials Control Division, Office of Water Program Operations.

IV. *Draft EIS's.* (a) The responsible official shall send two copies of the draft EIS to:

(1) The Office of Federal Activities.

(2) The headquarters EIS coordinator for the program office originating the document. When the originating office is a regional office and the project is related to water quality management, send two copies to the Oil and Special Materials Control Division, Office of Water Program Operations.

(b) If none of the above offices requests any changes within ten (10) working days after notification, the responsible official shall:

(1) Send five copies of the draft EIS to CEQ.

(2) Send two copies of the draft EIS to the Office of Public Affairs and to the Office of Legislation.

(3) Send two copies of the draft EIS to the appropriate offices of reviewing Federal agencies that have special expertise or jurisdiction by law with respect to any impacts involved. CEQ's guidelines (40 CFR 1500.9 and Appendices II and III) list those agencies to which draft EIS's will be sent for official review and comment.

(4) Send two copies of the draft EIS to the appropriate Federal, State, regional and metropolitan clearinghouses.

(5) Send one copy of the draft EIS to public libraries in the project area and interested persons. Post offices, city halls or courthouses may be used as distribution points if public library facilities are not available.

(c) The responsible official shall make a copy of the draft EIS available for public review at the originating office and at the Office of Public Affairs.

V. *Final EIS.* (a) The responsible official shall distribute the final EIS to the following offices, agencies and interested persons:

(1) Five copies to CEQ.

(2) Two copies to the Office of Public Affairs, Legislation and Federal Activities.

(3) Two copies to the headquarters EIS coordinator for the program office originating the document.

(4) One copy to Federal, State and local agencies and interested persons who made substantive comments on the draft EIS or requested a copy of the final EIS.

(5) One copy to a grant applicant.

(b) The responsible official shall make a copy of the final EIS available for public review at the originating office and at the Office of Public Affairs.

VI. *Legislative EIS.* Copies of the legislative EIS shall be distributed by the responsible official according to the procedures in section IV(b) of this appendix. In addition, the responsible official shall send two copies of the EIS to the Office of Federal Activities and the EIS coordinator of the originating office.

[FR Doc 75-9553 Filed 4-11-75;8:45 am]

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III. 2

federal register

THURSDAY, AUGUST 23, 1973
WASHINGTON, D.C.

Volume 38 ■ Number 163

PART III

ENVIRONMENTAL PROTECTION AGENCY

■

WATER PROGRAMS

Public Participation in Water Pollution Control

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Title 40—Protection of Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

SUBCHAPTER D—WATER PROGRAMS

PART 105—PUBLIC PARTICIPATION IN WATER POLLUTION CONTROL

Minimum Guidelines

On February 23, 1973 (38 FR 5038), the Administrator of the Environmental Protection Agency proposed regulations specifying minimum guidelines for public participation in certain processes under the Federal Water Pollution Control Act, as amended. Section 101(e) of the Act requires the Administrator, in cooperation with the States, to develop and publish such regulations, and to provide for, encourage, and assist public participation in the development, revision, and enforcement of any regulation, standard, effluent limitation, plan, or program established by the Administrator or by any State under the Act.

The regulations are a general statement of policy, setting forth objectives in public participation. They describe the provisions required in a minimum public participation program at State and Federal levels of governmental activity for water pollution control, call for a summary report on public participation efforts in relation to certain actions, and give minimum procedural guidelines for public hearings. Other regulations in Chapter I do provide more explicit requirements for public hearings and other procedures related to particular programs under the Act (for examples, see Part 135 on Citizen Suit procedures, § 124.31 thru 124.37 and § 125.31 thru 125.35 on the National Pollutant Discharge Elimination System, § 35.555 on State Program Grants, § 130.14 on the State Continuing Planning Process, among other provisions).

The regulations are based on the evident intent of Congress that public participation under the 1972 Act is to be accorded new significance, and that special attention and resources will be required. Emphasis for public involvement is placed at three levels: First, in development of statewide programs, including priority lists for allocation of resources; second, in preparation of basin and area-wide plans involving selection among alternative systems and projects; and third, in the case-by-case consideration of local projects and permit applications.

The proposed regulations published had been developed with informal participation of and suggestions from numerous persons, including representatives of several citizen and conservation groups, trade organizations, governments, and other interests. The States had an opportunity to comment on the proposed regulations in draft form.

Further public and government comment was sought upon publication of the proposed rules. More than fifty sets of written comments, as well as a number of verbal comments, were received and reviewed. The Environmental Protection Agency has carefully considered all submitted comments. All written comments are on file with the Agency. Many suggestions have been adopted or substantially satisfied by editorial changes in, deletion from, or addition to, the guidelines. These and other principal comments are discussed below.

1. Several commenters expressed concern that the guidelines did not provide sufficient opportunity for public participation in establishment of the state program for public participation. The language of § 105.3, "Required Programs and Reports", has been modified to clarify the concept that this is an integral part of the overall state program for water pollution control, subject to continuing public scrutiny and consideration, as well as to annual review and approval by the Regional Administrator.

2. In § 105.4, "Guidelines for Agency Programs", each of the §§ 105.4(a) through 105.4(e) has been edited in response to comment by citizens and conservation groups to describe more precisely the elements that should make up an agency public participation program.

3. In § 105.4(d), "Notification", some redundant language was deleted at the suggestion of several states.

4. In § 105.4(e), "Access to Information", the listing of specific material to be made available for public reference has been deleted. Specifying material increases the possibility that other relevant material might be overlooked or omitted. Certain information, such as grant applications, is more useful in final submission form than as working materials.

5. An industry group requested language protecting trade secrets be inserted in §§ 105.4(e) and 105.4(f), "Enforcement." This reference was not included since such safeguards are provided adequately in the Act and in Part 2 of this chapter, dealing with freedom of information.

6. Numerous commenters questioned the negative language originally proposed in § 105.4(f), "Enforcement." This has been changed to read "Public efforts in reporting violations shall be encouraged * * *" Additional provision has been made to ensure followup to such reporting.

7. Conservation and citizen groups argued for stronger provision for prior public notice on out-of-court settlements under § 105.4(g) "Legal Proceedings." This provision has been modified to reflect the July 17, 1973, Statement of Policy by the Department of Justice providing for public comments on consent decrees involving discharge of pollutants in the environment.

8. An additional provision has been added to § 105.4(h), "Rulemaking," pertaining to the availability of information about proposed rulemaking.

9. Numerous comments, notably from State governments, called attention to the burden placed on their resources in efforts to meet the public participation requirements. These regulations have been prepared with full consideration for section 101(f) of the Act which focuses on the need for minimization of paperwork and the best use of available manpower and funds. The simple device of a public statement or "Summary of Public Participation" as called for in § 105.5, "Guidelines for Reporting," was strongly endorsed by many citizen groups as a means of encouraging agency efforts to improve public participation without generation of excessive paperwork.

10. Almost all citizen groups responding to publication of the proposed regulations called for stronger provision in § 105.6, "Guidelines for Evaluation," for action on the Summary of Public Participation. The opening paragraph has been revised to indicate clearly that a Regional Administrator may reject a plan or grant application if he finds inadequate public participation. Although many commenters wanted a separately published evaluation of the Summary of Public Participation, this was felt to be contrary to the objective of section 101(f) of the Act. The findings on public participation, however, are to be incorporated into the action documents on a plan, grant application, or other matter.

11. Paragraphs (a) through (g) of the Evaluation section, § 105.6 have been omitted. To include these in the regulations would invite excessive legal interpretation, resulting in voluminous paperwork and records. These paragraphs proposed in the published guidelines as suggested measures of evaluation, will be incorporated into material for regional office guidance. The supplementary material, of less rigid format than regulations, will include additional points suggested in comments received.

12. Section 105.7(c), "Opportunity for Hearing," has been retitled and restated for consistency with language of the Act, and includes a provision responding to a number of comments calling for holding public hearings in cases of doubt.

13. In commenting on § 105.7(d), "Hearing Notices," numerous groups representing both industry and conservation interests stressed a need for more adequate time to prepare organizational response to proposed agency actions. Their comments recommended notice of 45 to 60 days in advance of hearings. The stated 30-day advance notice, however, is consistent with established practice.

14. A new § 105.9, "Applicability," has been added to make it clear that these guidelines cannot be retroactive, nor used to delay programs already under way.

15. Many commenters proposed funding support for state and local workshops similar to the previous effort under the Clean Air Act. This was felt to be inappropriate for coverage in these regulations since it is essentially a question of resources rather than procedures.

16. Several commenters raised questions on the right of appeal when citizen views had been ignored or not adequately provided for. This right is not separable from other aspects of the water pollution control programs in which normal channels of communication to administrators are open and provisions for citizen suit are available.

17. A few commenters representing varied interests requested specifically naming industrial groups or representa-

tions of the urban poor and minorities in relation to certain provisions for access or participation. It was felt that naming such interests would imply exclusion of other interests and it would be unwise to attempt to narrow the definition of "public" in any way.

Accordingly, the regulations providing guidelines for public participation in water pollution control programs are hereby promulgated, to take effect upon publication.

Dated August 17, 1973.

JOHN QUARLES,
Acting Administrator.

A new Part 105 is added to Subchapter D, Chapter I, CFR, Title 40, as follows:

PART 105—PUBLIC PARTICIPATION IN WATER POLLUTION CONTROL

Sec.
105.1 Scope.
105.2 Policy and objectives.
105.3 Required program and reports.
105.4 Guidelines for agency programs.
105.5 Guidelines for reporting.
105.6 Guidelines for evaluation.
105.7 Guidelines for public hearings.
105.8 Coordination and non-duplication.
105.9 Applicability.

AUTHORITY.—Sec. 101(e), Federal Water Pollution Control Act (Sec. 2, Federal Water Pollution Control Act Amendments of 1972, Public Law 92-500; 86 Stat. 816; 33 U.S.C.).

§ 105.1 Scope.

This part sets forth minimum guidelines for public participation in the processes of development, revision and enforcement of any regulation, standard, effluent limitation, plan or program under the Federal Water Pollution Control Act, as amended (Public Law 92-500; 86 Stat. 816, 33 U.S.C. 1251), in accordance with section 101(e) of the Act. This part is applicable to all Environmental Protection Agency (EPA) components concerned with the Federal Water Pollution Control Act, including EPA Headquarters program offices and divisions, and EPA Regional Offices, and to States and interstate agencies. These guidelines contain general requirements applicable to regulations, standards, effluent limitations, plans and programs. More specific requirements applicable in specific areas are contained in existing regulations on Public Information (Part 2 of this chapter) and in other regulations that have been or will be issued pertaining to various specific programs under the Act, as well as State and local laws pertinent to the subject.

§ 105.2 Policy and Objectives.

Participation of the public is to be provided for, encouraged, and assisted to the fullest extent practicable consistent with other requirements of the Act in Federal and State government water pollution control activities. The major objectives of such participation include greater responsiveness of governmental actions to public concerns and priorities, and improved popular understanding of official programs and actions. Although the primary responsibility for water quality decision-making is vested by law in public agencies at the various levels of government, active public involvement in and scrutiny of the intergovernmental decision-making process is desirable to accomplish these objectives. Conferring with the public after a final agency decision has been made will not meet the requirements of this part. The intent of these regulations is to foster a spirit of openness and a sense of mutual trust between the public and the State and Federal agencies in efforts to restore and maintain the integrity of the Nation's waters.

§ 105.3 Required Programs and Reports.

Each agency cited in § 105.1 carrying out activities under the Act shall provide for and conduct a continuing program for public participation comprising substantially the elements listed in § 105.4. Staff responsibility and budgetary provisions shall be identified for such program in the administration element of the annual State program submission under Part 35 Subpart B of this chapter. Public participation activities shall be reported on annually and in relation to certain documents and actions as called for in § 105.5.

§ 105.4 Guidelines for Agency Programs.

The continuing agency program for public participation shall contain mechanisms or activity for each of the elements listed in this section. The exact mechanisms and extent of activity may vary in relation to resources available, public response, and the nature of issues involved.

(a) *Informational Materials.*—Each agency shall provide continuing policy, program, and technical information at the earliest practicable times and at places easily accessible to interested or affected persons and organizations so that they can make informed and constructive contributions to governmental decision-making. News releases, newsletters and other publications may be used for this purpose. Special efforts shall be made to summarize complex technical materials for public and media use.

(b) *Assistance to Public.*—Each agency shall have an arrangement for providing technical and informational assistance to public groups for citizen education, community workshops, training, and dissemination of information to communities. Requests for information shall be promptly handled.

(c) *Consultation.*—Each agency shall have standing arrangements for early consultation and exchange of views with interested or affected persons and organizations on development or revision of plans, programs, or other significant actions prior to decision-making. Advisory groups, ad hoc committees, or workshop meetings may serve this purpose.

(d) *Notification.*—Each agency, for its appropriate geographic area, shall maintain a current list of interested persons and organizations, including any who ask to be on such list, for the periodic distribution of materials in paragraph (a) of this section. Each agency shall additionally comply, in connection with any public hearing or other proposed action, with any formal or specific requirements for public notice called for in the Act or in other regulations, to be supplemented wherever possible with informal notice to all interested persons or organizations having requested in advance such notice.

(e) *Access to Information.*—Each agency shall provide, either directly or through others, in an appropriate location or locations, one or more central public collections or depositories of water quality reports and data pertinent to the geographic area concerned. Examples of the materials available for public reference could include grant and permit applications, permits, effluent discharge information, compliance schedule reports, and materials specified in section 308(b) of the Act. Copying facilities at reasonable cost shall be available.

(f) *Enforcement.*—Each agency shall develop internal procedures for receiving and ensuring proper consideration of information and evidence submitted by citizens. Public effort in reporting violations of water pollution control laws shall be encouraged, and the procedures for such reporting shall be set forth by the agency. Alleged violations shall be promptly investigated by the agency.

(g) *Legal Proceedings.*—Each agency shall provide full and open information on legal proceedings under the Act, to the extent not inconsistent with court requirements, and where such disclosure would not prejudice the conduct of the litigation. Actions of the Environmental Protection Agency shall support and be consistent with the Statement of Policy issued by the Department of Justice with regard to affording opportunities for public comment before the Department of Justice consents to a proposed judgment in an action to enjoin dischargers of pollutants into the environment. (See Title 28, Code of Federal Regulations, Chapter 1, § 50.7.)

(h) *Rule Making.*—In addition to providing an opportunity for public hearings on proposed regulations, where appropriate or required under applicable statutes or regulations, agencies shall invite, receive, and consider comments in writing from any interested or affected persons and organizations. All such comments shall be part of the public record, and a single copy of each comment shall be routinely available for public inspection. Notices of proposed rule making, as well as final rules and regulations, shall be distributed to interested or affected persons as quickly as possible after publication. Each notice of proposed rule making shall include information as to the availability of the full texts of proposed rules and regulations (where these are not set forth in the notice itself) and as to the designated places where copying facilities shall be available at reasonable cost to the public.

(i) *Other Measures.*—The listing of specific measures in this section shall not preclude additional techniques for ob-

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taining, encouraging, or assisting public participation.

§ 105.5 Guidelines for Reporting.

The annual report of each EPA unit or office, and the annual State program submission under Section 106 of the Act as required under Part 35 of this Chapter, shall include a description of public participation provisions and activities. In addition, and in order that the public and reviewing or approving officials may be fully aware of the actual extent of public input and involvement, a Summary of Public Participation related to particular actions or documents shall be publicly presented as follows:

(a) In the case of regulations and standards required to be published by the Administrator in the FEDERAL REGISTER or required to be published by a State agency in an official form, the Summary of Public Participation shall be published as part of the introductory material.

(b) In the case of Statewide or areawide plans or portions thereof (including the continuing planning process under section 303(e) of the Act and plans developed under such process), or comparable matters required to be approved by the Administrator, the Summary of Public Participation shall be submitted as a part of the plan or of the public transmittal document.

(c) In the case of applications for grants for construction projects other than those under section 208 of the Act, or for planning or annual program grants (including grants under sections 102(c), 106, and 208 of the Act), the Summary of Public Participation shall be a part of the application.

(d) Each Summary of Public Participation shall describe the measures taken by the agency to provide for, encourage, and assist public participation in relation to the matter; the public response to such measures; and the disposition of significant points raised.

§ 105.6 Guidelines for Evaluation.

The Administrator, Regional Administrator, or other approving official shall review and evaluate each Summary of Public Participation in relation to the matter submitted. He may call for additional information, or for the records of meetings or hearings. If he finds that there has been inadequate opportunity for public participation on the matter, he may disapprove or suspend action; or alternatively take measures, or require the sponsoring agency to take measures, to obtain additional public participation, prior to final action. Such final action shall include a statement of findings in regard of public participation.

§ 105.7 Guidelines for Public Hearings.

Any public hearing, whether mandatory or discretionary, to be held under the Act shall be in conformity with this section. If conflict exists between the minimum guidelines of this section and requirements of State or Federal law or other regulations pertaining to a particular hearing, the more stringent requirements shall be observed.

(a) *Purpose.*—Generally, a public hearing gives persons and organizations a formal opportunity to be heard on a matter prior to decision-making. Although public hearing testimony may focus on the prospective action to be taken in the form of a tentative plan or decision, the final actions shall benefit from and reflect consideration of the public hearing content.

(b) *Public Meetings.*—Agencies are encouraged to hold public meetings or workshops, jointly where feasible, on significant matters or proposed actions. Such meetings shall not supplant public hearings when such are required, and shall be informational in nature with opportunity for public response.

(c) *Opportunity for Hearings.*—Where the opportunity for public hearing is called for in the Act, and in other appropriate instances, a public hearing shall be held if the hearing official finds significant public interest (including the filing of requests or petitions for such hearing) or pertinent information to be gained. Instances of doubt should be resolved in favor of holding the hearing, or if necessary, of providing alternative opportunity for public participation.

(d) *Hearing Notices.*—In addition to any other formal legal requirements, a notice of each hearing or public meeting shall be well publicized and be mailed to interested or affected persons and organizations as soon as the hearing or meeting is scheduled by the agency and in the case of a hearing, at least thirty calendar days before the hearing is to take place. If it should be necessary to allow less than thirty days' notice prior to a hearing, the hearing notice shall state the reasons for such shorter time period.

(e) *Location and Time.*—In determining the locations and times for hearings, consideration shall be given to easing travel hardship and to facilitating attendance and testimony by a cross-section of interested or affected persons and organizations. Accessibility of hearing sites by public transportation shall be considered.

(f) *Documents.* Reports, documents, and data to be discussed at the public hearing shall be available to the public for a reasonable time prior to the hearing. For complex matters, a Fact Sheet outlining major issues, tentative staff determinations if appropriate, bibliography, and procedures for obtaining further information, for requesting a public hearing, and for other appropriate actions shall be prepared and its availability made known in the notice called for in paragraph (d) of this section.

(g) *Agenda.*—The elements of the public hearing, proposed time schedule, and any constraints on statements shall be specified in the notice of the hearing.

(h) *Scheduling.*—Witnesses at public hearings shall be scheduled in advance when necessary to ensure maximum participation and allotment of adequate time for testimony, provided that such scheduling is not used as a bar to unscheduled testimony. Blocks of time shall be considered for major categories of witnesses. Evening and weekend schedules shall be considered.

(i) *Statements.*—Public hearing procedures shall not inhibit free expression of views by requirements of more than one legible copy of any statement submitted, or for qualification of witnesses beyond that needed for identification.

(j) Records.—A record of public hearing proceedings shall be made promptly available to the public at cost.

§ 105.8 Coordination and Non-Duplication.

In accordance with the policy of section 101(f) of the Federal Water Pollution Control Act, public participation activities and materials required under the Act or these regulations may be combined with closely related programs or activities of the agencies concerned, wherever such combination will enhance the economy, the effectiveness, or the timeliness of the effort, enhance the clarity of the issue, and not be detrimental to participation by the widest possible public. Hearings and meetings may be held jointly by more than one agency on the same matter under the Act, where such procedure does not conflict with other provisions. Interstate agencies particularly are encouraged to develop combined proceedings on behalf of the States concerned.

§ 105.9 Applicability.

The provisions of this part shall apply only to actions taken after the effective date of this part.

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federal register

TUESDAY, MARCH 19, 1974

WASHINGTON, D.C.

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PART II

ENVIRONMENTAL PROTECTION AGENCY

■

IMPLEMENTATION OF THE UNIFORM RELOCATION ASSISTANCE AND REAL PROPERTY ACQUISITION POLICIES ACT OF 1970

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Title 40—Protection of Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

SUBCHAPTER A—GENERAL

PART 4—IMPLEMENTATION OF THE UNIFORM RELOCATION ASSISTANCE AND REAL PROPERTY ACQUISITION POLICIES ACT OF 1970

The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, Pub. L. 91-646, became effective January 2, 1971. Its purpose is to provide uniform and equitable land acquisition policies and relocation assistance for displaced persons in connection with Federal or federally-assisted programs.

Pursuant to section 213 of the Act, the Environmental Protection Agency issued interim regulations on August 24, 1971 (36 FR 16626). Although invited, no comments were recieved concerning the interim regulations. Since their publication, the Office of Management and Budget has issued Guidelines for Implementation of the Act (OMB Circular A-103, May 1, 1972). These revised regulations have been based on those guidelines. Additionally, these regulations reflect the Agency's experience to date in implementing the Act and reflect the results of coordination with other Federal agencies to achieve uniformity in implementation.

Pursuant to Office of Management and Budget Circular A-85, "Consultation with heads of State and local governments in development of Federal regulations," the regulations have been reviewed by State and local organizations through the Advisory Commission on Intergovernmental Relations (ACIR). As a result of the single comment received following the ACIR review, regulation 4.600 has been revised to indicate that the acquisition of easements is subject to the policies and procedures governing land acquisition.

These regulations supersede those published as interim regulations August 24, 1971. Interested parties are encouraged to submit written comments concerning the regulations to the Director, Grants Administration Division, Environmental Protection Agency, Washington, D.C. 20460. All submissions received before July 1, 1974, will be considered prior to promulgation of the final regulations and will be available for examination in Room W437E, Waterside Mall West, 401 M Street, SW., Washington, D.C.

Effective date. The interim regulations of this part shall become effective March 19, 1974.

JOHN QUARLES,
Acting Administrator.

MARCH 7, 1974.

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AUTHORITY: Sec. 213 of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, Pub. L. 91-646 (84 Stat. 1894).

Subpart A—General

§ 4.100 Purpose and policy.

(a) This part implements the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 which provides for the uniform and equitable treatment of persons displaced from their homes, businesses, or farms by Federal and federally-assisted projects and establishes uniform and equitable land acquisition policies for Federal and federally-assisted programs.

(b) In implementing the Act, it is the policy of the Environmental Protection Agency to deal consistently and fairly with all persons whose property is taken for public projects and all persons who are displaced from their homes, businesses or farms.

§ 4.101 Applicability.

This part applies to EPA projects and to EPA assisted projects which after January 1, 1971, cause the displacement of persons or the acquisition of real property.

§ 4.102 Definitions.

As used in this part—

§ 4.102-1 The Act.

The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, Pub. L. 91-646 (84 Stat. 1894) approved January 2, 1971.

§ 4.102-2 Administrator.

The Administrator of the Environmental Protection Agency or his designee.

§ 4.102-3 Business.

A lawful activity, other than a farm operation, conducted primarily,

(a) For the purchase, sale, lease, or rental of personal and real property, or the manufacture, processing, or marketing of products, commodities, or other personal property;

(b) For the sale of services to the public;

(c) By a nonprofit organization, or

(d) Solely for the purposes of section 202(a) of the Act, for assisting in the

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purchase, sale, resale, manufacture, processing, or marketing of products, commodities, personal property, or services by the erection and maintenance of an outdoor advertising display or displays, whether or not such display or displays are located on the premises on which any of the above activities are conducted. Section 202(a) provides entitlement to payment for actual reasonable moving and related expenses.

§ 4.102–4 Displacing agency.

The Environmental Protection Agency in the case of an EPA project or a State agency (§ 4.102–14) in the case of a project receiving financial assistance from EPA.

§ 4.102–5 Dwelling.

The place of permanent or customary and usual abode of a person. It includes a single family building, a one-family unit in a multifamily building, a unit of a condominium or co-operative housing project, and any other residential unit, including a mobile home, which is either considered to be real property under State law or which cannot be moved without substantial damage or unreasonable cost.

§ 4.102–6 Economic rent.

The amount of rent a displaced homeowner or tenant would have to pay for a comparable dwelling in an area similar to the neighborhood in which the displacement dwelling is located.

§ 4.102–7 Family.

Two or more individuals who are related by blood, adoption, marriage, or legal guardianship who live together as a family unit. Others who live together as a family unit may be treated as if they were a family, upon determination by the Administrator.

§ 4.102–8 Farm operation.

A lawful activity conducted solely or primarily for the production of one or more agricultural products or commodities, including timber, for sale or home use and customarily producing those products or commodities in sufficient quantity to be capable of providing at least one-third of the operator's income. Where such operation is obviously a farm operation, however, it need not contribute one-third to the operator's income for him to be eligible for relocation payments.

§ 4.102–9 Federally assisted.

With respect to States or State agencies, assisted by a contract, grant, loan, or contribution by the United States, except any Federal guarantee or insurance and any annual payment or capital loan to the District of Columbia.

§ 4.102–10 Initiation of negotiations.

The date on which the displacing agency makes the first personal contact with the property owner or his representative and furnishes him with a written offer to purchase real property.

§ 4.102–11 Mortgage.

A lien commonly given to secure an advance on, or the unpaid purchase price of, real property under the laws of the State in which real property is located, together with any credit instruments secured thereby.

§ 4.102–12 Owner.

A person who holds fee title, a life estate, a 99-year lease, or an interest in a cooperative housing project which includes the right of occupancy of a dwelling unit, or is the contract purchaser of any such estate or interest, or who is possessed of such other proprietary interest in the property acquired as, in the judgment of the Administrator, warrants consideration as ownership. In the case of one who has succeeded to any of the foregoing interests by devise, bequest, inheritance or operation of law, the tenure of ownership, not occupancy, of the succeeding owner shall include the tenure of the preceding owner.

§ 4.102–13 Person.

Any individual, partnership, corporation or association.

§ 4.102–14 State agency.

A department, public body, agency or instrumentality of a State or of a political subdivision of a State, or any department, agency or instrumentality of two or more States or of two or more political subdivisions of a State or States, the National Capital Housing Authority and the District of Columbia Redevelopment Land Agency.

§ 4.102–15 Tenant.

An individual or family who rents, or is temporarily in lawful possession of a dwelling, including a sleeping room.

§ 4.103 Displaced person; qualifications.

(a) Subject to the exceptions of paragraphs (d) and (e) of this section, a person qualifies as a displaced person if, after January 1, 1971, he moves from real property, or moves his personal property from real property, as a result of the acquisition of that real property, in whole or in part, or as the result of the written order of the acquiring agency to vacate real property, for a program or project undertaken by EPA or with EPA financial assistance.

(b) A person who moves from real property, or moves his personal property from real property, as a result of the acquisition of, or the written order of the acquiring agency to vacate, other real property on which such person conducts a business or farm operation (and the acquisition of that other real property is for an EPA or EPA-assisted project) is a displaced person solely for the purposes of sections 202(a), 202(b) and 205 of the Act. Those sections provide for entitlement to payment for moving and related expenses and to relocation assistance advisory services.

(c) A person may qualify as a displaced person regardless of:

(1) Whether the property is acquired by EPA or by a State agency receiving assistance from EPA;

(2) The name or status of the person who acquires or holds fee title to the property; or

(3) Whether EPA funds contribute to the payment for the property, if the property must be acquired for an EPA or EPA-assisted program or project.

(d) A person, other than the former owner or tenant, who enters into rental occupancy of real property after its ownership passes to the displacing agency, does not qualify as a displaced person for purposes of this part.

(e) A person who enters into occupancy of real property after the initiation of negotiations for that property or after the issuance of a notice of intent to acquire that property by a given date, does not qualify as a displaced person for purposes of this part.

§ 4.104 Appeals.

(a) *EPA administered projects.* Any person aggrieved by a determination made by EPA, in connection with an EPA project or program, concerning the eligibility for, or amount of, any payment to such person under the regulations in this part, may appeal to have his application reviewed by the Administrator. Appeals shall be submitted in writing and addressed to the Administrator, Environmental Protection Agency, Washington, D.C. 20460. No appeal will be considered unless it is received by the Administrator within 90 days of the date of receipt by the person aggrieved of written denial, in whole or in part, of his application for payment. The appeal should include written substantiation. An appeal may be presented by the attorney of the person aggrieved or by the person himself. The Administrator shall promptly issue a decision on the appeal, which decision may either uphold the original determination or allow prompt payment of any amounts which are determined to be due the claimant. The decision will be in writing, and state the facts and law upon which it is based. A copy of the decision will be furnished to the person aggrieved. The decision will constitute the final EPA decision on the application for payment.

(b) *EPA-assisted projects.* An applicant for a payment under an EPA assisted project who is aggrieved by a displacing agency's determination as to the applicant's eligibility for payment or the amount of the payment may appeal that determination in accordance with the procedures established by the displacing agency. Each displacing agency shall establish procedures for reviewing appeals by aggrieved applicants for payments. The procedures shall insure that:

(1) Each applicant has the opportunity for oral and written presentation and the right to have counsel participate in such presentation;

(2) Each appeal will be decided promptly;

(3) Each appeal decision will include a written statement of the reasons upon

which it is based and a copy of such decision will be furnished the appellant;

(4) Prompt payment is made of any amounts which are determined to be due the claimant.

(5) The agency retains all documents associated with each appeal; and

(6) Each appellant applicant has a final appeal to the head of the displacing agency.

§ 4.105 Records.

Each displacing agency shall maintain relocation records in accordance with the requirements of Appendix A to this part and make them available during regular business hours for inspection by the Administrator. The records shall be retained by the agency for at least 3 years after completion of a project.

§ 4.106 Application for benefits.

Application for benefits under the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 are to be made within eighteen months from the date on which the displaced person moves from the real property acquired or to be acquired; or the date the displacing agency makes final payment of all costs of that real property, whichever is the later date. The Administrator may extend this period upon a proper showing of good cause.

§ 4.107 Payment not to be considered income.

Displacing agencies must advise all displaced persons that no payment received under Title II of the Act shall be considered as income for the purposes of the Internal Revenue Code of 1954, or for the purposes of determining eligibility of any person for assistance under the Social Security Act or any other Federal law.

Subpart B—Moving and Related Expenses

§ 4.200 General.

Any displaced person, including one who conducts a business or farm operation, is eligible to receive a payment for moving expense. A displaced person may elect to receive actual reasonable moving and related expenses or a fixed moving expense allowance.

§ 4.201 Payment of actual moving and related expenses.

§ 4.201–1 Allowable moving expenses.

(a) Transportation of individuals, families, and personal property from the acquired site to the replacement site, not to exceed a distance of 50 miles, except where the displacing agency determines that relocation beyond this 50 mile area is justified.

(b) Packing, unpacking, crating, and uncrating of personal property.

(c) Advertising for packing, crating, and transportation when the displacing agency determines that it is necessary.

(d) Storage of personal property for a period generally not to exceed 12 months when the displacing agency determines that storage is necessary in connection with relocation.

(e) Insurance premiums covering loss and damage of personal property while in storage or transit.

(f) Removal, reinstallation, reestablishment, including such modification as deemed necessary by the displacing agency of personal property, and reconnection of utilities for machinery, equipment, appliances, and other items, not acquired as real property. Prior to payment of any expenses for removal and reinstallation of such property, the displaced person shall be required to agree in writing that the property is personal and that the displacing agency is released from any payment for the property.

(g) Property lost, stolen, or damaged (not caused by the fault or negligence of the displaced person, his agency or employees) in the process of moving, where insurance to cover such loss or damage is not available.

(h) Such other actual reasonable expenses determined by the Administrator to be allowable and directly attributable to moving because of displacement.

§ 4.201–2 Limitations.

(a) When the displaced person accomplishes the move himself, the amount of payment shall not exceed the estimated cost of moving commercially, unless the Administrator determines a greater amount is justified.

(b) When an item of personal property which is used in connection with any business or farm operation is not moved but sold and promptly replaced with a comparable item, reimbursement shall not exceed the replacement cost minus the proceeds received from the sale, or the estimated costs of moving, whichever is less.

(c) When personal property which is used in connection with any business or farm operation to be moved is of low value and high bulk, and the cost of moving would be disproportionate in relation to the value, in the judgment of the head of the displacing agency, the allowable reimbursement for the expense of moving the personal property shall not exceed the difference between the amount which would have been received for such item on liquidation and the cost of replacing the same with a comparable item available on the market. This provision will be applicable in the case of moving of junk yards, stockpiled sand, gravel, minerals, metals, and similar items of personal property.

(d) If the cost of moving or relocating an outdoor advertising display or displays is determined to be equal to or in excess of the in-place value of the display, consideration should be given to acquiring such display or displays as a part of the real property, unless such acquisition is prohibited by State law.

§ 4.201–3 Nonallowable moving expenses and losses.

No payment will be made under this subpart for:

(a) Additional expenses incurred because of living in a new location.

(b) Cost of moving structures or other improvements in which the displaced person reserves ownership except as otherwise provided by law.

(c) Improvements to the replacement site, except when required by law.

(d) Interest on loans to cover moving expenses.

(e) Loss of good-will.

(f) Loss of profits.

(g) Loss of trained employees.

(h) Personal injury.

(i) Cost of preparing the application for moving and related expenses.

(j) Payment for search cost in connection with locating a replacement dwelling.

(k) Any other expense found by the Administrator not to be a necessary, actual and reasonable cost of moving.

§ 4.201–4 Expenses in searching for replacement business or farm.

(a) Actual reasonable expenses incurred by the displaced person in searching for a replacement business or farm may be allowed as follows:

(1) Actual travel costs.

(2) Extra costs for meals and lodging.

(3) Time spent in searching at the rate of the displaced person's salary or earnings, but not to exceed $10 per hour.

(4) In the discretion of the displacing agency, necessary broker, real estate, or other professional fees to locate a replacement business or farm operation.

(b) The total amount which a displaced person may be paid for searching expenses may not exceed $500 unless the Administrator determines that a greater amount is justified based on the circumstances involved.

§ 4.201–5 Actual direct losses by business or farm operation.

Actual direct losses of tangible personal property as a result of moving or discontinuing a business or farm operation are reimbursable.

(a) When the business or farm operation is discontinued, the displaced person is entitled to the difference between the fair market value of the personal property for continued use at its location prior to displacement and the sale proceeds, or the estimated costs of moving 50 miles, whichever is less.

(b) When the personal property is abandoned, the displaced person is entitled to payment for the fair market value of the property for continued use at its location prior to displacement, or the estimated cost of moving 50 miles, whichever is less.

(c) The cost of removal of the personal property shall not be considered as an offsetting charge against other payments to the displaced person.

(d) The displaced person must make a bona fide effort to sell personal property not moved.

§ 4.205 Payment of a fixed moving expense allowance.

§ 4.205–1 Occupants of dwellings.

A person displaced from a dwelling can elect in lieu of payment for actual reasonable moving and related expenses:

(a) A dislocation allowance of $200; and

(b) A moving expense allowance, not to exceed $300, based on a moving allowance schedule for the jurisdiction in which displacement occurs.

(1) Moving allowance schedules maintained by the respective State highway departments should be used as the basis for the displacement agency's moving allowance schedules. These schedules should provide for adequacy of reimbursement in every locality.

(2) The Federal Highway Administration will make current schedules available to displacing agencies upon request.

(3) In areas where there are no highway department schedules, the displacing agency shall cooperate with other displacing agencies in the development of a single moving expense schedule for the use of all such agencies.

§ 4.205–2 Business.

A displaced person who conducts a bona fide business may elect, in lieu of payment for actual reasonable moving and related expenses a fixed amount equal to the average annual net income of the business computed in accordance with § 4.206 below but not less than $2,500 or more than $10,000, if that business:

(a) Substantially contributes to the income of the displaced person;

(b) Cannot, in the opinion of the displacing agency, be relocated without substantial loss of existing patronage taking into consideration:

(1) The type of the business;

(2) The nature of its clientele; and

(3) The relative importance of the displacement and proposed relocation sites to the business; and

(c) Is not part of a commercial enterprise having at least one other establishment engaged in the same or similar business which is not being acquired by a State agency or the United States.

(d) Is not an outdoor advertising business.

§ 4.205–3 Farm operations.

(a) A displaced person who conducts a farm operation may elect, in lieu of payment for actual reasonable moving and related expenses, a fixed amount equal to the average annual net earnings of the farm operation, computed in accordance with § 4.206 below, but not less than $2,500 or more than $10,000.

(b) In the case of a partial acquisition and displacement of a farm operation, the fixed allowance described in paragraph (a) of this section may be paid only if the displacing agency finds that:

(1) The displaced activity was a farm operation before the acquisition of the displacement site; and

(2) The property remaining after acquisition is not an economic unit.

§ 4.205–4 Nonprofit organizations.

(a) A displaced person who conducts a nonprofit organization may elect, in lieu of payment for actual reasonable moving and related expenses, a fixed amount equal to the average annual net income of the nonprofit organization computed in accordance with § 4.206 below but not less than $2,500 or more than $10,000.

(b) Where a nonprofit organization is displaced, no payment shall be made under this subpart until after the Administrator determines:

(1) That the nonprofit organization cannot be relocated without a substantial loss of its existing patronage. The term "existing patronage" as used in connection with nonprofit organizations includes the persons, community or clientele served or affected by the activities of the nonprofit organization.

(2) That the nonprofit organization is not part of a commercial enterprise having at least one other establishment not being acquired which is engaged in the same or similar activity.

§ 4.206 Computing average annual net income; businesses and farm operations.

(a) The average annual net income of a business or farm operation is its average annual net earnings before Federal, State and local income taxes during the 2 tax years immediately preceding the tax year in which it is displaced. Net earnings include compensation obtained from the business or farm operation by its owner, his spouse, or dependents or in the case of a corporate owner, by the holder of a majority of the common stock, his spouse, or dependents.

(b) For the purpose of determining majority ownership, stock held by an individual, his spouse, and his dependents shall be treated as a unit.

(c) If the 2 tax years immediately preceding displacement are not representative, or if the business or farm operation has not been in operation that long, the displacing agency may, with the concurrence of the Administrator, prescribe some other time period for computing average annual net income.

(d) If a displaced person who conducts a business or farm operation elects to receive a fixed payment under this subpart, he shall provide proof of his earnings from the business or farm operation to the displacing agency. Proof of earnings may be established by income tax returns, certified financial statements, or other similar evidence.

§ 4.210 Application for payment.

(a) Application for payment of moving and related expenses shall be in writing and filed with the displacing agency no later than 18 months after either the date of acquisition of the dwelling, business or farm by the agency or the date the applicant vacated the dwelling, business or farm, whichever is later.

(b) Applications shall include an itemization of the expenses involved and, except as provided in paragraphs (d) and (e) of this section, shall be supported by receipts and such other evidence as the displacing agency may require. Itemization of moving expenses is not required if the displaced person has elected the payment of a fixed moving expense allowance.

(c) A displaced person may not be paid for his moving expenses in advance of the actual move unless the displacing agency finds that a hardship would otherwise result.

(d) If a displaced person, his mover, and the displacing agency agree by prearrangement in writing, the displaced person may submit an unpaid bill for moving expenses for direct payment.

(e) If the displacing agency contracts with independent movers on a schedule basis and provides a displaced person with a list of movers he may choose from to move his personal property, payment shall be made directly to the mover.

Subpart C—Replacement Housing

§ 4.301 Determinations or assurances required before displacement.

(a) No project which will result in the displacement of any person will be approved until the Administrator has determined, in the case of an EPA project, or has received satisfactory assurances, in the case of an EPA supported project, that:

(1) Fair and reasonable relocation payments will be provided to displaced persons as required by Subparts B and C of this part;

(2) Relocation assistance programs offering the services described in Subpart D of this part will be provided for displaced persons;

(3) The public was or will be adequately informed of the relocation payments and services which will be available under Subparts B, C, and D of this part; and

(4) Comparable replacement dwellings will be available, or provided if necessary, a reasonable period in advance of the time any person is to be displaced.

(b) The displacing agency will not proceed with any phase of a project which will cause the displacement of any person until the Administrator has determined, in the case of an EPA project, or has received satisfactory assurances in the case of an EPA-supported project, that replacement housing will be:

(1) Decent, safe, and sanitary (as defined in § 4.303);

(2) Functionally equivalent and substantially the same as the dwelling being acquired (but not excluding newly constructed housing) with respect to:

(i) Number of rooms;

(ii) Area of living space;

(iii) Age, and

(iv) State of repair.

(3) In an area not generally less desirable in regard to public utilities and public and commercial facilities;

(4) Reasonably accessible to the displaced person's place of employment;

(5) Adequate to accommodate the displaced family or individual;

(6) In an equal or better neighborhood;

(7) Available on the market and at rents or prices within the financial means of the families and individuals displaced;

(8) Sufficient in number for the displaced persons who require them;

(9) Consistent with the requirements of Title VIII of the Civil Rights Act of 1968 (Pub. L. 90–204);

(10) Based on a current survey and analysis of available replacement hous-

ing and in consideration of competing demands on available housing.

(c) In case of emergency, extreme hardship or similar extenuating circumstances assurances of availability may be waived with the concurrence of the Administrator. Any waiver must be supported by appropriate findings and a determination of necessity.

§ 4.302 Replacement housing unavailable.

When it is determined that adequate replacement housing is not available and cannot otherwise be made available, the Administrator may take action or approve action for a State agency to develop replacement housing. The Administrator, in taking or approving any action to develop replacement housing will be guided by the criteria and procedures issued by the Secretary of Housing and Urban Development.

§ 4.303 Decent, safe, and sanitary housing requirements.

(a) A decent, safe, and sanitary housekeeping dwelling is one which:

(1) Meets State or local housing codes;

(2) Is sound, clean, and weathertight;

(3) Has a kitchen with fully usable sink;

(4) Has a cooking stove, or utility service connections;

(5) Has a separate complete bathroom;

(6) Has hot and cold running water in the bathroom and kitchen;

(7) Has a continuing and adequate supply of potable water;

(8) Has an adequate and safe wiring system for lighting and other electrical services; and

(9) Has heating as required by climatic conditions and local codes.

(b) A decent, safe, and sanitary nonhousekeeping dwelling is one which:

(1) Meets State or local codes for boarding houses, hotels, or other congregate living;

(2) Has heating as required by climatic conditions and local codes;

(3) Has an adequate and safe wiring system;

(4) Is sound, clean, and weathertight; and

(5) Has use of a complete bathroom with hot and cold running water and affords privacy to a person within it, including a door that can be locked if the facilities are separate from the nonhousekeeping unit.

(c) If the applicable housing code does not meet all the requirements for housekeeping or nonhousekeeping units, as appropriate, but is reasonably comparable, a copy of the local code must be submitted to the Administrator for approval as acceptable standards for decent, safe, and sanitary housing.

§ 4.310 Replacement housing payment for homeowners.

A displaced owner-occupant is eligible for a replacement housing payment, not to exceed $15,000, if he meets both of the following requirements:

(a) Actually owned and occupied the acquired dwelling from which displaced for not less than 180 days prior to the initiation of negotiations for the property.

(b) Purchases and occupies a replacement dwelling, which is decent, safe, and sanitary, not later than the end of the one-year period beginning on the date on which he receives from the displacing agency the final payment of all costs of the acquired dwelling, or on the date on which he moves from the acquired dwelling, whichever is the later date.

§ 4.311 Computation of payment—180-day owners.

The replacement housing payment of not more than $15,000 to a homeowner is comprised of the following:

(a) *Differential payment for comparable replacement dwelling.* This payment is the lower of:

(1) $15,000 less payment for any increased interest costs or incidental expenses (paragraphs b and c of this section).

(2) The amount representing the difference between the acquisition price of the acquired dwelling and the costs of a decent, safe, sanitary, comparable replacement dwelling. (See § 4.330 below for methods of determining replacement dwelling cost).

(3) The amount representing the difference between the acquisition price of the acquired dwelling and the actual purchase price of a decent, safe, sanitary dwelling voluntarily purchased and occupied by the displaced person.

(b) *Interest payment.* If there was a bona fide mortgage (a valid lien on the acquired dwelling for not less than 180 days prior to the initiation of negotiations) the displaced owner-occupant shall be compensated for any increased interest costs including points paid by the purchaser.

(1) The amount payable is the present value of the difference in interest costs and other debt service costs charged for refinancing an amount not more than the balance of the mortgage on the acquired dwelling at the time of acquisition over a period not more than the remaining term of that mortgage.

(2) The present value of the increased interest cost shall be computed at the prevailing interest rate paid on passbook savings deposits by commercial banks in the area in which the replacement dwelling is located.

(3) The interest charge on the new mortgage may not exceed the prevailing interest rate currently charged by mortgage lending institutions in the area.

(c) *Incidental expenses.* The displaced owner-occupant shall be reimbursed for actual costs incurred by him incident to purchase of the replacement dwelling. Prepaid expenses and any expense which is part of the finance charge under the Truth in Lending Act, Title I, Pub. L. 90-321, and Regulation "Z" (12 CFR Part 226) issued by the Board of Governors of the Federal Reserve System, may not be reimbursed. Incidental expenses include:

(1) Legal, closing and related costs, including title search, preparing conveyance instruments, notary fees, surveys, preparing plats, and charges incident to recordation.

(2) Lenders', FHA or VA, appraisal fees.

(3) FHA or VA application fees.

(4) Certification of structural soundness when required by the lender, FHA or VA.

(5) Credit report.

(6) Title policies or abstract of title.

(7) Escrow agent's fee.

(8) State revenue stamps or sale or transfer taxes.

§ 4.320 Replacement housing payments for tenants and certain others.

(a) A displaced tenant or owner-occupant of a dwelling for less than 180 days is eligible for a replacement housing payment not to exceed $4,000 if he meets both of the following requirements:

(1) Actually occupied the dwelling for not less than 90 days prior to the initiation of negotiations for acquisition of the property.

(2) Is not eligible to receive a payment under § 4.310.

(b) An owner-occupant of a dwelling for not less than 180 days prior to the initiation of negotiations is eligible for a replacement housing payment as a tenant, when he rents, instead of purchases, a decent, safe, and sanitary replacement dwelling not later than the end of the one year period beginning (1) on the date that he receives final payment for the acquired dwelling, or (2) on the date when he moves from the acquired dwelling, whichever is later.

§ 4.321 Computation of rental replacement housing payments.

Eligible displaced tenants or owner-occupants who elect to rent a replacement dwelling may receive a replacement housing payment, not to exceed $4,000, determined as follows:

(a) The amount payable for rent to a displaced tenant, other than a tenant of the displacing agency, is 48 times the reasonable monthly rent for a comparable replacement dwelling, less 48 times the average month's rent paid by the displaced tenant for the last 3 months before initiation of negotiations for the acquired dwelling if that rent was reasonable, and if not reasonable, 48 times the monthly economic rent for the dwelling unit as established by the displacing agency.

(b) The amount payable for rent to a displaced tenant of the displacing agency is 48 times the reasonable monthly rent for a comparable replacement dwelling less 48 times the monthly economic rent.

(c) The amount payable for rent to a displaced homeowner is 48 times the reasonable monthly rent for a comparable replacement dwelling less 48 times the monthly economic rent, but not more than the homeowner would receive if he were eligible for a payment under § 4.311.

(d) In no event, however, shall the rental payment, when added to the average month's actual or, if appropriate, economic rent, exceed the actual rent that the displaced person or homeowner pays for the replacement dwelling

(c) In determining the reasonable monthly rent for a comparable replacement dwelling the displacing agency shall use one of the following methods:

(1) It may establish a schedule of monthly rents for each type of dwelling required. The schedule shall be based on an analysis of the available private market. If more than one agency is administering a project causing displacement in the area, it shall cooperate with those agencies in establishing a uniform schedule for the area.

(2) It may determine a reasonable rent by examining the rent of at least three comparable replacement dwellings available on the private market.

(3) If it finds that the methods described in subparagraphs (1) and (2) of this paragraph are not feasible the displacing agency may propose what it considers to be a feasible method to the Administrator for approval.

§ 4.322 *Computation of replacement housing down payment—tenants and 90-day owners.*

If the tenant elects to purchase replacement housing within one year from displacement instead of renting, the payment shall be computed by determining the amount necessary to enable him to make a down payment and to cover incidental expenses on the purchase of replacement housing, as follows:

(a) The down payment shall be the amount necessary to make a down payment on a comparable replacement dwelling. Determination of the amount necessary for such down payment shall be based on the amount of down payment that would be required for purchase of the dwelling using a conventional loan.

(b) Incidental expenses of closing the transaction are those described in § 4.311(c).

(c) The amount required to be paid by the purchaser as points or as an origination or loan service fee is includable if such fees are normal to real estate transactions in the area.

(d) The maximum payment may not exceed $4,000 and if more than $2,000 is required, the tenant must match any amount in excess of $2,000 by an equal amount in making the down payment.

(e) The full amount of the replacement housing payment must be applied to the purchase price and incidental costs shown on the closing statement.

§ 4.330 *Determination of cost of replacement dwelling.*

In determining the reasonable cost of a comparable replacement dwelling available on the private market, the displacing agency shall use one of the following methods:

(a) It may establish a schedule of reasonable acquisition costs for the various types of comparable replacement dwellings which are available on the private market. If more than one agency is administering a project causing displacements in the area, it shall cooperate with those agencies in establishing a uniform schedule for the area. The schedule must be based on a current analysis of the market to determine a reasonable cost for each type of dwelling to be purchased. In large urban areas this analysis may be confined to one area of the city, or may cover several different areas if they are comparable and equally accessible to public services and places of employment. To assure the greatest comparability of dwellings, the analysis shall be divided into classifications by type of construction, number of rooms, and price ranges.

(b) It may determine the reasonable cost of a comparable replacement dwelling by examining the probable selling prices of at least three comparable replacement dwellings which are available. Selection of the dwellings must be made by a qualified employee or agent of the displacing agency who is familiar with real property values and current real estate transactions.

(c) If it finds that the methods described in paragraphs (a) and (b) of this section are not feasible for determining the reasonable cost of a comparable replacement dwelling, it may propose what it considers to be a feasible method to the Administrator for approval.

§ 4.331 *Rules for considering land values.*

In determining the amount of the replacement housing payment the following provisions shall be applied.

(a) If the dwelling is located on a tract typical for residential use in the area, the maximum replacement housing amount payable is the probable selling price of a comparable replacement dwelling on a tract typical for the area, less the acquisition price of the acquired property.

(b) If the dwelling is located on a tract larger than typical for residential use in the area, the maximum replacement housing amount payable is the probable selling price of a comparable replacement dwelling on a tract typical for the area, less the estimated value of the dwelling at the present location on a homesite typical in size for residential use in the area.

(c) If the dwelling is located on a tract where the fair market value is established on a higher and better than residential use, the maximum replacement housing amount payable is the probable selling price of a comparable replacement dwelling on a tract typical for residential use in the area, less the estimated value of the dwelling assuming it was located on a tract typical for residential use in the area.

§ 4.332 *Partial use of home for business or farm operation.*

(a) In the case of a displaced homeowner or tenant who has allocated part of his dwelling for use in connection with a displaced business or farm operation, a replacement housing payment may not be paid for that part of the property which is allocated to the business or farm operation.

(b) The eligibility of a person to receive moving expense under this part is not affected by this section.

§ 4.333 *Multiple occupants of a single dwelling.*

(a) If two or more families or an individual and a family, occupy the same dwelling, each such individual or family that elects to relocate separately is entitled to a separately computed replacement housing payment.

§ 4.334 *Multifamily dwelling.*

In the case of a displaced homeowner who is required to move from a one-family unit of a multifamily building which he owns, the replacement housing payment shall be based on the cost of a comparable one-family unit in a multifamily building or a single family structure without regard for the number of units in the building being acquired.

§ 4.335 *Application and payment.*

(a) Upon application by a displaced homeowner or tenant who meets the requirements of this subpart for a replacement housing payment, the displacing agency shall:

(1) If he has purchased or rented, and occupied a decent, safe, and sanitary dwelling, make the payment directly to him, or at his option to the seller or lessor of the decent, safe, and sanitary dwelling; or

(2) If he has purchased or rented, but not yet occupied a decent, safe, and sanitary dwelling, upon his request make the payment into an escrow account.

(b) The application shall be in writing and filed with the displacing agency within 18 months after the date the applicant was required to vacate an acquired dwelling or 6 months after final adjudication of a condemnation proceeding, whichever is later.

§ 4.336 *Certificate of eligibility pending purchase of replacement dwelling.*

Upon request by a displaced homeowner or tenant who has not yet purchased and occupied a comparable replacement dwelling, but who is otherwise eligible for a replacement housing payment under this subpart, the displacing agency shall certify to any interested party, financial institution, or lending agency, that the displaced homeowner or tenant will be eligible for the payment of a specific sum if he purchases and occupies a decent, safe, and sanitary dwelling within the prescribed time limit.

§ 4.337 *Inspection of replacement dwelling required.*

(a) Before making a replacement housing payment to a displaced homeowner or tenant, or releasing a payment from escrow, the displacing agency shall inspect the replacement dwelling to determine whether or not it meets the criteria for decent, safe, and sanitary dwellings. The displacing agency may use the services of any public agency ordinarily engaged in housing inspection to conduct the inspection.

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(b) A determination by the displacing agency that a dwelling meets the criteria for decent, safe, and sanitary housing is solely for the purpose of this subpart and is not a representation for any other purpose.

Subpart D—Relocation Assistance Advisory Services

§ 4.600 Requirements for relocation assistance advisory programs.

The displacing agency must provide a relocation assistance advisory program for displaced persons. The program must provide for:

(a) Explaining to displaced persons the relocation assistance and payments that are available.

(b) Assisting displaced persons to complete applications required for payments;

(c) Determining the needs of displaced persons for relocation assistance.

(d) Informing displaced persons as to the availability and cost of comparable replacement dwellings and comparable locations for displaced business and farm operations;

(e) Assisting each displaced person to obtain and move to a comparable replacement dwelling;

(f) Informing displaced persons as to Federal and State housing programs; and

(g) Providing counsel and advice to displaced persons that will minimize the hardships associated with adjusting to a new location.

§ 4.601 Extension of service.

If a displacing agency determines that any person occupying property immediately adjacent to the real property acquired is caused substantial economic injury because of the acquisition, relocation advisory services may be offered such person.

§ 4.602 Displaced person declining to accept relocation services.

A displaced person is not required to accept the relocation services provided for his benefit. He may choose to relocate on his own and still be eligible for payment if the replacement housing meets the occupancy requirements of decent, safe, and sanitary housing and application for payment is within the prescribed time limits.

§ 4.603 Information for displaced persons.

(a) The displacing agency must deliver to each displaced person either in person or by certified mail, return receipt requested:

(1) A brochure or letter explaining the relocation assistance advisory program; and

(2) If A is not included in the brochure, a notice stating the eligibility requirements for payments for replacement housing and moving expenses.

(3) In addition, if the displaced person is a homeowner or tenant, a written statement setting forth the optional types and the actual amount of replacement housing payments to which he is entitled.

(b) The information required by paragraph (a) of this section shall be furnished:

(1) To homeowners not later than the initiation of negotiations for the property or the issuance of a written notice of intent to acquire the property by a definite date, as the case may be; and

(2) To tenants within 15 days after the initiation of negotiations for the property or the issuance of a written notice of intent to acquire the property by a definite date as the case may be.

(c) The displacing agency shall notify each displaced person of his right to appeal.

§ 4.604 Public information.

(a) To insure public awareness of its relocation assistance advisory program, the displacing agency shall provide an opportunity for presentation of information and discussion of relocation services and payments at public hearings, prepare a relocation brochure, and give full and adequate public notice of the relocation program for each project to which this part applies.

(b) In areas where a language other than English is predominant, public information shall be published in the predominant language as well as in English.

§ 4.605 Coordination of relocation activities.

(a) When the displacing agency contemplates displacement in a given area, it shall furnish to the appropriate HUD area office information regarding projects which will cause displacement and shall consult with that office concerning the availability of housing. HUD Regional offices should be used in areas not served by an area office.

(1) A directory of HUD Regional and area offices is provided in Appendix B to this part. Subsequent updated directories can be obtained from the Department of Housing and Urban Development.

(b) Pursuant to the requirements and procedures promulgated by Office of Management and Budget Circular A-95 (Revised), the displacing agency shall consult appropriate local officials through the State clearinghouse.

(c) The displacing agency shall designate at least one representative who will meet periodically with the representatives of other displacing agencies to review the impact of their respective programs on the area.

(d) The displacing agency shall establish channels of communication and coordinate its displacement activities with other agencies planning or carrying out relocation in the affected area. The person assigned by the displacing agency to provide relocation assistance for a particular project shall maintain personal contact and exchange information with welfare agencies, urban renewal agencies, redevelopment authorities, public housing authorities, the Federal Housing Administration, the Veterans Administration, the Small Business Administration and other agencies providing services to displaced persons. He shall also collect and maintain information on private replacement properties in the area of the project through personal contact with real estate brokers, real estate boards, property managers, apartment owners and operators, and home building contractors.

§ 4.606 Contracting for relocation services.

(a) To prevent unnecessary expenses and duplication of activities, an agency that is required to provide relocation services or make relocation payments under this part may carry out any of those functions through the facilities, personnel, and services of a Federal, State, or local governmental or private agency having an established organization for conducting relocation assistance programs.

(b) When a central relocation agency is available in the project area or community, the displacing agency shall consider entering into an agreement with such agency. Regional and area offices of the Department of Housing and Urban Development can provide information concerning relocation service agencies. (Appendix B to this part).

(c) If a central relocation agency is not available or is unable, in the judgment of the displacing agency, to provide the necessary services within the time required, the displacing agency may provide relocation services through contracts with another public agency or a private contractor.

§ 4.606–1 Written agreement required.

If the displacing agency elects to provide relocation services or make relocation payments through another agency, it shall enter into a written agreement with that agency. The agreement must be approved by the Administrator and must contain the following:

(a) An obligation on the part of the other agency to perform the services and make the relocation payments in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, and this part.

(b) If the contract is with a public agency administering another Federal or federally assisted program, a description of the financial responsibilities of each program to finance the relocation program required by this part.

(c) A provision acknowledging that only those costs directly chargeable to the EPA or EPA assisted project are eligible for EPA funds.

(d) A provision for negotiation of major changes that become necessary in the scope, character, or estimated total costs of the work to be performed.

(e) Clauses required by EPA regulations implementing Title VI of the Civil Rights Act of 1964 (Pub. L. 88-352).

(f) A provision that the records required by Appendix A be retained by the other agency or turned over to the displacing agency and that they be retained for a period of at least 3 years after payment of the final voucher on each project, regardless of which agency retains them.

(g) A provision that the records required by Appendix A to this part be available for inspection by representa-

tives of the Environmental Protection Agency or the General Accounting Office at any reasonable business hour.

(h) Any other provisions required by the Administrator to meet the requirements of EPA regulations and policies applicable to EPA supported projects.

Subpart E—Federally Assisted Projects

§ 4.500 *State agency assurances.*

The Environmental Protection Agency will not approve a grant, contract, or agreement for an EPA assisted project until the State agency provides the Administrator with satisfactory written assurances that:

(a) For projects resulting in the displacement of any person:

(1) It will adequately inform the public of the relocation payments and services which will be available as set forth in Subparts A, B, C, and D of this part.

(2) It will provide fair and reasonable relocation payments to displaced persons as required by Subparts B and C of this part.

(3) It will provide a relocation assistance program for displaced persons offering services described in Subpart D of this part; and

(4) Comparable replacement dwellings will be available pursuant to Subpart C of this part, or provided if necessary, a reasonable period in advance of the time any person is displaced.

(b) For projects resulting in the acquisition of real property:

(1) It will fully comply with the requirements of Subpart F of this part; and

(2) Adequately inform the public of the acquisition policies, requirements, and payments which will apply to the project.

§ 4.500–1 *Inability to provide assurances.*

If a State agency is unable to provide the assurances required by § 4.500, for any program or projects that will result in the displacement of any person or the acquisition of any real property, it must furnish the Administrator a statement specifying any provisions of the assurances required by this section which it is unable to provide in whole or in part under the laws of that State. The statement must be supported by an opinion of the Chief Legal Officer of the State agency of the legal inability to provide any part of the required assurances.

§ 4.501 *Monitoring.*

The Environmental Protection Agency will monitor on a continuing basis, actions taken by State agencies in relation to assurances given for EPA assisted programs and projects to insure conformance with such assurances.

§ 4.502 *EPA share of costs.*

(a) The cost to a State agency of providing the payments and services required by Subparts B, C, and D of this part, and the additional identifiable cost to a State agency of providing the payments and services required by Subpart F of this part, shall be included as part of the cost of the EPA assisted project and, except as provided in paragraph (b) of this section, the State agency is eligible for EPA financial assistance with respect to those costs in the same manner and to the same extent as other project costs.

(b) If EPA assistance is by grant or contribution, the Environmental Protection Agency will pay a State agency the full amount of the first $25,000 of the cost of providing the payments and services described in this part for any displaced person because of any acquisition or displacement occurring before July 1, 1972.

(c) If the Administrator determines it is necessary for the expeditious completion of a program or project, he may advance to the State agency the EPA share of the cost of any payment of assistance by such State agency pursuant to sections 206, 210, 215, and 305 of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970.

§ 4.503 *Use of EPA financial assistance.*

(a) The type of interest acquired in real property does not affect the eligibility of related relocation costs for EPA financial assistance provided the interest is sufficient to cause displacement.

(b) EPA financial assistance may not be used to pay a relocated person for any loss that is due to his negligence.

(c) EPA financial assistance may not be used for any payment to a displaced person if that person receives a separate payment which is:

(1) Required by the State law of eminent domain;

(2) Determined by the Administrator to have substantially the same purpose and effect as a payment under this part; and

(3) Otherwise included as a project cost for which financial assistance is available.

Subpart F—Acquisition of Real Property

§ 4.600 *Applicability.*

The requirements prescribed by this subpart apply to the acquisition of real property (including easements) for EPA administered and EPA assisted projects.

§ 4.601 *Acquisition.*

§ 4.601–1 *Procedures.*

In acquiring real property, the displacing agency shall:

(a) Adequately inform the public of the acquisition policies, requirements, and payments which apply to the project;

(b) Make every reasonable effort to acquire real property expeditiously through negotiation;

(c) Before the initiation of negotiations have the real property appraised and give the owner or his representative an opportunity to accompany the appraiser during inspection of the property;

(d) Before the initiation of negotiations, establish an amount which it believes to be just compensation for the real property, and make a prompt offer to acquire the property for that amount;

(e) Before requiring any owner to surrender possession of real property, the displacing agency will:

(1) Pay the agreed purchase price, or

(2) Deposit with the court, for the benefit of the owner, an amount not less than the agency's approved appraisal of the fair market value of the property; or

(3) Pay the amount of the award of compensation in a condemnation proceeding for the property.

(f) If interest in real property is to be acquired by exercise of the power of eminent domain, institute formal condemnation proceedings and not intentionally make it necessary for an owner to institute legal proceedings to prove the fact of the taking of his real property; and

(g) Offer to acquire the entire property, if acquisition of only part of a property would leave its owner with an uneconomic remnant.

§ 4.601–2 *Limitations.*

In acquiring real property, the displacing agency may not:

(a) Schedule the construction or development of a public improvement that will require any person lawfully occupying real property to move from a dwelling, or to move his business or farm operation, without giving that person at least 90 days writen notice of the date he is required to move;

(b) If the displacing agency rents acquired real property to the former owner or tenant for a short term or subject to termination by the agency on short notice, charge rent that is more than the fair rental value of the property to a short-term occupant;

(c) Advance the time of condemnation;

(d) Defer negotiations, condemnation, or the deposit of funds in court for use of the owner; or

(e) Take any coercive action to compel an owner to agree to a price for his property.

§ 4.601–3 *Appraisal.*

(a) As a general rule only one appraisal will be obtained on each tract, unless the displacing agency determines that circumstances require an additional appraisal or appraisals.

(b) Real property acquisition records shall show that the owner or his designated representative has been given an opportunity to accompany the appraiser during his inspection of the property.

(c) Standards for appraisals used in EPA and EPA assisted programs shall be consistent with the current Uniform Appraisal Standards for Federal Land Acquisition published by the Interagency Land Acquisition Conference, U.S. Government Printing Office, Washington, D.C.

§ 4.602 *Statement of just compensation.*

At the time it makes an offer to purchase real property, the displacing agency shall provide the owner of that property with a written statement of the basis for the amount estimated to be just compensation. The statement shall include the following:

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(a) An identification of the real property and the particular interest being acquired;

(b) A certification, where applicable, that any separately held interest in the real property is not being acquired in whole or in part;

(c) An identification of buildings, structures, and other improvements, including fixtures, removable building equipment, and any trade fixtures which are considered to be part of the real property for which the offer of just compensation is made;

(d) An identification of any real property improvements, including fixtures, not owned by the owner of the land;

(e) An identification of the types and approximate quantity of personal property located on the premises that is not being acquired;

(f) A declaration that the agency's determination of just compensation:

(1) Is based on the fair market value of the property;

(2) Is not less than the approved appraised value of the property;

(3) Disregards any decrease or increase in the fair market value of the property caused by the contemplated project;

(4) In the case of separately held interests in the real property, includes an apportionment of the total just compensation for each of those interests; and

(g) The amount of damages to any remaining real property.

§ 4.603 Equal interest in improvements to be acquired.

In acquiring any interest in real property each displacing agency shall acquire at least an equal interest in all building, structures, or other improvements located on that real property which will be removed or which will be adversely affected by the completed project.

§ 4.604 Notice to occupants.

(a) *Owner-occupants.* Simultaneous with the fair market value offer, owner-occupants of real property to be acquired, shall be furnished in writing, by the displacing agency, an explanation of their rights under the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and these regulations.

(b) *Tenants.* Within 15 days following the initiation of negotiations, the displacing agency shall notify affected tenants and occupants, in writing, of the initiation of negotiations and of their rights under the Act of these regulations.

§ 4.605 Acquisition of improvements.

(a) In the case of a building, structure, or other improvement owned by a tenant on real property acquired for a project to which this part applies, the displacing agency shall, subject to paragraph (b) of this section, pay the tenant the larger of:

(1) The fair market value of the improvement, assuming its removal from the property; or

(2) The enhancement of the fair market value of the real property.

(b) A payment may not be made to a tenant under paragraph (a) of this section unless:

(1) The tenant, in consideration for the payment, assigns, transfers, and releases to the displacing agency all his right, title, and interest in the improvement;

(2) The owner of the land involved disclaims all interest in the improvement; and

(3) The payment is not duplicated by any payment otherwise authorized by law.

§ 4.606 *Transfer of title expenses.*

As soon as possible after real property has been acquired, the displacing agency shall reimburse the owner for:

(a) Recording fees, transfer taxes, and similar expenses incidental to conveying the real property to the agency;

(b) Penalty costs for prepayment of any preexisting recorded mortgage entered into in good faith encumbering the real property; and

(c) The pro-rata portion of any prepaid property taxes which are allocable to a period subsequent to the date of vesting title in the agency or the effective date of possession of the real property by the agency, whichever is the earlier.

§ 4.607 Litigation expenses.

(a) In any condemnation proceeding brought by the displacing agency to acquire real property, it shall reimburse the owner of any right, title, or interest in the real property for his reasonable cost, disbursements, and expenses, including attorney, appraisal, and engineering fees, actually incurred because of the proceeding, if:

(1) The final judgment is that the displacing agency cannot acquire the real property by condemnation; or

(2) The proceeding is abandoned by the displacing agency concerned.

(b) In any inverse condemnation proceeding where the owner of any right, title, or interest in real property receives an award of compensation by judgment or settlement, the displacing agency shall reimburse the plaintiff for his reasonable costs, disbursements, and expenses, including reasonable attorney, appraisal, and engineering fees, actually incurred because of the proceeding.

§ 4.608 *Real property provided by State agency for an EPA project.*

(a) Whenever a State agency is obligated to provide the necessary real property incident to an EPA project, the Environmental Protection Agency may not accept that real property until it is determined that the State agency has made all payments and provided all assistance and assurances required of a State Agency by § 4.500.

(b) The State agency shall pay the cost of such requirements in the same manner and to the same extent as the real property acquired for such project, except that in the case of any real property acquisition or displacement occurring prior to July 1, 1972, the Environmental Protection Agency shall pay the first $25,000 of the cost of providing the required payments and assistance.

APPENDIX A—RECORDS

I. *Land acquisition.* For purpose of Title III of the Act, the acquiring agency shall keep a record of the following information concerning each acquisition of any interest in land used for an EPA supported project:

(1) The identification of the property and the estate or interests acquired, including improvements; owners and occupants.

(2) The appraisal.

(3) The offer.

(4) The date and method of acquisition.

(5) The date, amount, and purpose of payments to owners and others.

II. *General information concerning the project.* A displacing agency shall keep a record of the following general information for each EPA administered or EPA assisted project:

(1) Project and parcel identification;

(2) Name and address of each displaced person;

(3) Dates of all personal contacts made with each displaced person;

(4) Date each displaced person is given notice of relocation payments and services.

(5) Name of agency employee who offers relocation assistance.

(6) The date the offer of assistance is declined or accepted, and the name of the individual who accepts or declines the offer.

(7) Date each displaced person is required to move.

(8) Date of actual relocation, and whether relocation was accomplished with the assistance of the displacing agency, oil or agencies, or without assistance.

(9) Type of tenure held by each displaced person before and after relocation.

III. *Displacement from dwellings.* The displacing agency shall keep a record of the following information concerning each individual or family displaced from a dwelling in connection with the project:

(1) Number in family, or number of individuals.

(2) Type of dwelling.

(3) Fair market value, or monthly rent.

(4) Number of rooms.

IV. *Displaced businesses.* The displacing agency shall keep a record of the following information concerning each business displaced in connection with the project.

(1) Type of business.

(2) Whether or not relocated.

(3) If relocated, distance moved.

(4) Data supporting a determination that a business cannot be relocated without a substantial loss of its existing patronage and that it is not part of a commercial enterprise having at least one other establishment not being acquired by a State agency or the United States.

V. *Moving expenses.* The displacing agency shall keep a record of the following information concerning each payment of moving and related expenses in connection with the project:

(1) The date personal property is moved, and the original and new locations of the personal property.

(2) If personal property is stored temporarily:

(a) The place of storage;

(b) The duration of storage; and

(c) A statement of why storage is necessary.

(3) An account of all moving expenses that are supported by receipted bills or similar evidence of expenses;

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(4) Amount of reimbursement claimed, amount allowed, and an explanation of any difference.

(5) In the case of a business or farm operation that receives a fixed allowance in lieu of moving expenses, data underlying the computation of such payment.

VI. *Replacement housing payments.* The displacing agency shall keep a record of the following information concerning each relocation housing payment made in connection with the project:

(1) The date application for payment is received.

(2) The date application for payment is approved or rejected.

(3) Data substantiating the amount of payment.

(4) If replacement housing is purchased, a copy of the closing statement indicating the purchase price, down payment, and incidental expenses.

(5) A copy of the Truth in Lending Statement, or other data, including computations, that confirm any increased interest payment.

APPENDIX B

DIRECTORY—REGIONAL AND AREA OFFICES, DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

Region I

Regional Administrator James J. Barry, Rm. 800, John F. Kennedy Federal Building, Boston, Massachusetts 02203. Tel. (617) 223-4066.

Area offices:

Connecticut, Hartford 06105: 999 Asylum Avenue, Tel. (203) 244-3028.

Massachusetts, Boston 02114: Bulfinch Building, 15 New Chardon Street, Tel. (617) 223-4111.

New Hampshire, Manchester 03101: Davison Building, 1230 Elm Street, Tel. (603) 666-7681.

Region II

Regional Administrator S. William Green, 26 Federal Plaza, New York, New York 10007, Tel. (212) 264-8068.

Area offices:

New Jersey, Camden 08103: The Parkade Building, 519 Federal Street, Tel. (609) 965-2301.

New Jersey, Newark 07102: Gateway 1 Building, Raymond Plaza, Tel. (201) 645-3010.

New York, Buffalo 14202: Grant Building, 560 Main Street, Tel. (716) 842-3510.

New York, New York 10007: 120 Church Street, Tel. (212) 264-0522.

Commonwealth area office:

Puerto Rico, San Juan 00936: Post Office Box 3869 GPO, 255 Ponce de Leon Avenue, Hato Rey, Puerto Rico, FTS Tel. (Dial Code 106—ask operator for listed number 822-0201). Commercial Number: 822-0201.

Region III

Regional Administrator Theodore R. Babb, Curtis Building, 6th and Walnut Streets, Philadelphia, Pennsylvania 19106, Tel. (215) 597-2560.

Area offices:

District of Columbia, Washington 20005: 1010 L Street, N.W., Tel. (202) 382-4855.

Maryland, Baltimore 21201: Federal Building, 31 Hopkins Plaza, Tel. (301) 962-2121.

Pennsylvania, Philadelphia 19106: Curtis Building, 625 Walnut Street, Tel. (215) 597-2358.

Pennsylvania, Pittsburgh 15222: 1000 Liberty Avenue, Tel. (412) 644-2805.

Virginia, Richmond 23240: 701 East Franklin Street, Post Office Box 10011, Tel. (703) 782-2721.

Region IV

Regional Administrator Edward H. Baxter, Peachtree-Seventh Building, 50 Seventh Street, N.E., Atlanta, Georgia 30323, Tel. (404) 526-5585.

Area offices:

Alabama, Birmingham 35203: Davis Building, 15 South 20th Street, Tel. (205) 325-3264.

Florida, Jacksonville 32204: Peninsular Plaza, 661 Riverside Avenue, Tel. (904) 791-2626.

Georgia, Atlanta 30303: Peachtree Center Building, 230 Peachtree Street, N.W., Tel. (404) 526-4378.

Kentucky, Louisville 40202: Children's Hospital Foundation Bldg., 601 South Floyd Street, Tel. (502) 582-5254.

Mississippi, Jackson 39202: 201 North Lamar Street, FTS Tel. (601) 948-2267, Commercial Number: 948-7321.

North Carolina, Greensboro 27402: 2309 West Cone Boulevard, Northwest Plaza, FTS Tel. (919) 275-9361, Commercial Number 275-9111.

South Carolina, Columbia 29201: 1901 Main Street, Jefferson Square, FTS Tel. (803) 253-3535, Commercial Number: 253-8371.

Tennessee, Knoxville 37919: One Northshore Building, 1111 Northshore Drive, FTS Tel. (615) 524-4011, Commercial Number: 584-8527.

Region V

Regional Administrator George J. Vavoulis, 300 South Wacker Drive, Chicago, Illinois 60606, Tel. (312) 353-5680.

Area offices:

Illinois, Chicago 60602: 17 North Dearborn Street, Tel. (312) 353-7660.

Indiana, Indianapolis 46205: Willowbrook II Building, 4720 Kingsway Drive, Tel. (317) 633-7188.

Michigan, Detroit 48226: 5th Floor, First National Building, 660 Woodward Avenue, Tel. (313) 226-7900.

Minnesota, Minneapolis-St. Paul: Griggs-Midway Building, 1821 University Avenue, St. Paul, Minnesota 55104, Tel. (612) 725-4601.

Ohio, Columbus 43215: 60 East Main Street, Tel. (614) 469-5737.

Wisconsin, Milwaukee 53203: 744 North 4th Street, FTS Tel. (414) 224-3214, Commercial Number: 272-3600.

Region VI

Regional Administrator Richard L. Morgan, Federal Building, 819 Taylor Street, Fort Worth, Texas 76102, Tel. (817) 334-3867.

Area offices:

Arkansas, Little Rock 72201: Union National Bank Building, One Union National Plaza, FTS Tel. (501) 372-5401, Commercial Number: 372-4201.

Louisiana, New Orleans 70113: Plaza Tower, 1001 Howard Avenue, Tel. (504) 527-2085.

Oklahoma, Oklahoma City 73102: 301 North Hudson Street, FTS Tel. (405) 231-4891, Commercial Number: 231-4181.

Texas, Dallas 75202: Room 14-A-18, New Dallas Federal Building, 1100 Commerce Street, Tel. (214) 749-2156.

Texas, San Antonio 78285: Kallison Building, 410 South Main Avenue, Post Office Box 9163, FTS Tel. (512) 225-4800, Commercial Number: 225-5811.

Region VII

Regional Administrator Harry T. Sharrott (Acting), Room 300 Federal Office Building, 911 Walnut Street, Kansas City, Missouri 64106, Tel. (816) 374-2661.

Area offices:

Kansas, Kansas City 66117: One Gateway Center, 8th and State Streets, Post Office Box 1339, Tel. (816) 374-6356.

Missouri, St. Louis 63101: 210 North 12th Street, Tel. (314) 622-4760.

Nebraska, Omaha 68106: Univac Building, 7100 West Center Road, Tel. (402) 221-4721.

Region VIII

Regional Administrator Robert C. Rosenheim, Federal Building, 1961 Stout Street, Denver, Colorado 80202, Tel. (303) 837-4881.

Region IX

Regional Administrator Robert H. Baida, 450 Golden Gate Avenue, Post Office Box 36003, San Francisco, California 94102, Tel. (415) 556-4752.

Area offices:

California, Los Angeles 90057: 3500 Wilshire Boulevard, Tel. (213) 688-5127.

California, San Francisco 94111: 1 Embarcadero Center, Suite 1800, Tel. (415) 556-2238.

Region X

Regional Administrator Oscar P. Pederson, Arcade Plaza Building, 1321 Second Avenue, Seattle, Washington 98101, Tel. (206) 442-5415.

Area offices:

Oregon, Portland 97204: 520 Southwest 6th Avenue, Tel. (503) 226-2726.

Washington, Seattle 98101: Arcade Plaza Building, 1321 Second Avenue, Tel. (206) 442-7656.

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III. 4

federal register

TUESDAY, FEBRUARY 4, 1975

WASHINGTON, D.C.

Volume 40 ■ Number 24

PART II

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

■

NATIONAL REGISTER OF HISTORIC PLACES

Advisory Council on Historic Preservation

Protection of Properties on the National Register; Procedures for Compliance

1.13-c

DEPARTMENT OF THE INTERIOR

National Park Service

NATIONAL REGISTER OF HISTORIC PLACES

Pursuant to the National Historic Preservation Act of 1966 (80 Stat. 915, 16 U.S.C. 470) the National Park Service, Department of the Interior has undertaken steps to implement the purposes of that act through: (1) Expansion of the National Register of Historic Places, (2) initiating a program of grants-in-aid for historic preservation, and (3) adoption of procedures and criteria for furthering the Nation's historic preservation program.

It is the purpose of this notice, through publication of information and materials included herein, to apprise the public, as well as governmental agencies, associations, and all other organizations and individuals interested in historic preservation; of the implementing actions that have been taken in order that there will be a greater awareness of the means by which properties of State and local historical significance may be nominated for placement in the National Register and of the criteria used in evaluating the properties. The notice includes a list of the properties included in the National Register of Historic Places through December 31, 1974.

RUSSELL E. DICKENSON,
Deputy Director,
National Park Service.

THE NATIONAL HISTORIC PRESERVATION ACT

THE NATIONAL REGISTER OF HISTORIC PLACES AND PROCEDURES FOR REGISTRATION

A. *Introduction.* In the National Historic Preservation Act of 1966, 80 Stat. 915, 16 U.S.C. 470, the Congress found and declared:

(a) That the spirit and direction of the Nation are founded upon and reflected in its historic past;

(b) That the historical and cultural foundations of the Nation should be preserved as a living part of our community life and development in order to give a sense of orientation to the American people.

(c) That, in the face of ever-increasing extensions of urban centers, highways, and residential, commercial, and industrial developments, the present governmental and nongovernmental historic preservation programs and activities are inadequate to insure future generations a genuine opportunity to appreciate and enjoy the rich heritage of our Nation; and

(d) That, although the major burdens of historic preservation have been borne and major efforts initiated by private agencies and individuals, and both should continue to play a vital role, it is nevertheless necessary and appropriate for the Federal Government to accelerate its historic preservation programs and activities, to give maximum encouragement to agencies and individuals undertaking preservation by private means, and to assist State and local governments and the National Trust for Historic Preservation in the United States to expand and accelerate their historic preservation programs and activities.

In order to accomplish these purposes, the National Historic Preservation Act provided for three significant innovations: An expanded National Register of Historic Places, a program of grants-in-aid for historic preservation, and an Advisory Council on Historic Preservation empowered to comment upon all undertakings licensed, assisted, or carried out by the Federal Government that have an effect upon properties in the National Register.

Official notice is hereby given to the public and government agencies of the opportunities and restrictions provided by the National Historic Preservation Act. Detailed administrative procedures for the program may be found in the manuals, "Historic Preservation Grants-in-Aid: Policies and Procedures," and "The National Register Program, Volume 2: How to Complete National Register Forms" January 1975 (U.S. Department of the Interior, National Park Service, Washington, D.C.). (Volume 1, "State and Federal Guidelines" to be published later in 1975.)

B. *Expanding the National Register of Historic Places.* The Act authorizes the Secretary of the Interior to expand and maintain a national register of districts, sites, buildings, structures, and objects significant in American history, architecture, archeology, and culture. Previously, the National Register included only nationally significant properties that are historical or archeological units of the National Park System or that have been declared eligible for designation as National Historic Landmarks. Because they must meet exacting criteria of national significance, such properties are few in number. The National Historic Preservation Act of 1966 provides a means for States to nominate properties of State and local significance for placement in the National Register.

The following officials have been designated by their Governors to act as State Historic Preservation Officers responsible for State activities under the National Historic Preservation Act:

STATE HISTORIC PRESERVATION OFFICERS

ALABAMA

Chairman, Alabama Historical Commission, Alabama Department of Archives and History, Archives and History Building, Montgomery, Alabama 36104.

ALASKA

Director, Department of Natural Resources, Division of Parks, 323 East Fourth Avenue, Anchorage, Alaska 99501.

ARIZONA

Director, State Parks Board, 1688 West Adams, Phoenix, Arizona 85007.

ARKANSAS

Director, Arkansas Department of Parks and Tourism, State Capitol, Room 149, Little Rock, Arkansas 72201.

CALIFORNIA

Director, Department of Parks & Recreation, State Resources Agency, P.O. Box 2390, Sacramento, California 95811.

COLORADO

Chairman, State Historical Society, Colorado State Museum, 200 14th Avenue, Denver, Colorado 80203.

CONNECTICUT

Director, Connecticut Historical Commission, 59 South Prospect Street, Hartford, Connecticut 06106.

DELAWARE

Director, Division of Historical and Cultural Affairs, Department of State, Dover, Delaware 19901.

FLORIDA

Director, Division of Archives, History, and Records Management, Department of State, 401 East Gaines Street, Tallahassee, Florida 32304.

GEORGIA

Chief, Georgia Department of Natural Resources, 710 Trinity-Washington Building, 270 Washington Street, S.W., Atlanta, Georgia 30334

HAWAII

Chairman, Department of Land and Natural Resources, State of Hawaii, P.O. Box 621, Honolulu, Hawaii 96809.

IDAHO

Director, Idaho Historical Society, 610 North Julia Davis Drive, Boise, Idaho 83706.

ILLINOIS

Director, Department of Conservation, 602 State Office Building, 400 South Spring Street, Springfield, Illinois 62706.

INDIANA

Director, Department of Natural Resources, State of Indiana, 608 State Office Building, Indianapolis, Indiana 46204.

IOWA

Director, Division of Historic Preservation, S-12, MacLean Hall, Iowa City, Iowa 52242.

KANSAS

Executive Director, Kansas State Historical Society, 120 West 10th Street, Topeka, Kansas 66612.

KENTUCKY

Director, Kentucky Heritage Commission, 401 Wapping Street, Frankfort, Kentucky 40601.

LOUISIANA

Director, Department of Art, Historical and Cultural Preservation, Old State Capitol, Baton Rouge, Louisiana 70801.

MAINE

Director, Maine Historical Preservation Commission, 31 Western Avenue, Augusta, Maine 04330.

MARYLAND

Director, Maryland Historical Trust, 2526 Riva Road, Annapolis, Maryland 21401.

MASSACHUSETTS

Secretary of the Commonwealth, Chairman, Massachusetts Historical Commission, 66 Beacon Street, Boston, Massachusetts 02108.

MICHIGAN

Director, Michigan History Division, Department of State, Lansing, Michigan 48918.

MINNESOTA

Director, Minnesota Historical Society, 690 Cedar Street, St. Paul, Minnesota 55101.

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MISSISSIPPI

Director, State of Mississippi Department of Archives and History, P.O. Box 571, Jackson, Mississippi 39205.

MISSOURI

Director, Missouri State Park Board, P.O. Box 176, 1204 Jefferson Building, Jefferson City, Missouri 65101.

MONTANA

Administrator, Recreation and Parks Division, Department of Fish and Game, State of Montana, Mitchell Building, Helena, Montana 59601.

NEBRASKA

Director, Nebraska State Historical Society, 1500 R Street, Lincoln, Nebraska 68501.

NEVADA

Administrator, Division of State Parks, 201 South Fall Street, Carson City, Nevada 89701.

NEW HAMPSHIRE

Commissioner, Department of Resources and Economic Development, P.O. Box 856, Concord, New Hampshire 03301.

NEW JERSEY

Commissioner, Department of Environmental Protection, P.O. Box 1420, Trenton, New Jersey 08625.

NEW MEXICO

State Historic Preservation Officer, State Capitol, 408 Capitol Building, Santa Fe, New Mexico 87501.

NEW YORK

Commissioner, Parks and Recreation, Room 902, South Swan Street Building, Albany, New York 12226.

NORTH CAROLINA

Director, Division of Archives and History, Department of Cultural Resources, 109 East Jones Street, Raleigh, North Carolina 27611.

NORTH DAKOTA

Superintendent, State Historical Society of North Dakota, Liberty Memorial Building, Bismarck, North Dakota 58501.

OHIO

Director, Ohio Historical Society, Interstate #71 at 17th Avenue, Columbus, Ohio 43211.

OKLAHOMA

State Historic Preservation Officer, 117 East Oklahoma Avenue, Route 1, Guthrie, Oklahoma 73044.

OREGON

State Parks Superintendent, 300 State Highway Building, Salem, Oregon 97310.

PENNSYLVANIA

Executive Director, Pennsylvania Historical and Museum Commission, Box 1026, Harrisburg, Pennsylvania 17120.

RHODE ISLAND

Director, Rhode Island Department of Community Affairs, 150 Washington Street, Providence, Rhode Island 02903.

SOUTH CAROLINA

Director, State Archives Department, 1430 Senate Street, Columbia, South Carolina 29211.

SOUTH DAKOTA

Cultural Preservation Director, Department of Education and Cultural Affairs, Office of Cultural Preservation, State Capitol, Pierre, South Dakota 57501.

TENNESSEE

Executive Director of the Tennessee Historical Commission, 170 Second Avenue North, Nashville, Tennessee 37201.

TEXAS

Executive Director, Texas State Historical Survey Committee, P.O. Box 12276, Capitol Station, Austin, Texas 78711.

UTAH

Director, Division of State History, 603 East South Temple, Salt Lake City, Utah 84102.

VERMONT

Director, Vermont Division of Historic Sites, Pavilion Building, Montpelier, Vermont 05602.

VIRGINIA

Executive Director, Virginia Historic Landmarks Commission, 221 Governor Street, Richmond, Virginia 23219.

WASHINGTON

Director, Washington State Parks and Recreation Commission, P.O. Box 1128, Olympia, Washington 98504.

WEST VIRGINIA

State Historic Preservation Officer, West Virginia Antiquities Commission, Old Mountaineer, West Virginia University, Morgantown, West Virginia 26506.

WISCONSIN

Director, State Historical Society of Wisconsin, 816 State Street, Madison, Wisconsin 53706.

WYOMING

Director, Wyoming Recreation Commission, 604 East 35th Street, Box 309, Cheyenne, Wyoming 82001.

DISTRICT OF COLUMBIA

Acting Director, Office of Housing & Community Development, Room 115-A, District Building, 14th & E Streets NW, Washington, D.C. 20004.

AMERICAN SAMOA

Executive Secretary, Environmental Quality Commission, Office of the Governor, Pago Pago, American Samoa 96920.

COMMONWEALTH OF PUERTO RICO

State Historic Preservation Officer, Institute of Puerto Rico Culture, Apartado 4184, San Juan, Puerto Rico 00905.

GUAM

Director, Department of Commerce, Government of Guam, P.O. Box 682, Agana, Guam 96910.

TRUST TERRITORY

Chief, Land Resources Branch, Trust Territory of the Pacific Islands, Saipan, Mariana Islands 96950.

VIRGIN ISLANDS

Planning Director, Virgin Islands Planning Board, Charlotte Amalie, St. Thomas, Virgin Islands 00801.

Under Executive 11593 agencies of the Executive branch of the government shall: (1) Administer cultural properties under their control, and (2) initiate measures necessary to preserve, restore, and maintain federally owned sites, structures, and objects of historical, architectural, and archeological significance.

The following are the Federal representatives responsible for implementing this Executive Order:

DEPARTMENT OF AGRICULTURE

Director, Division of Recreation, Forest Service, Department of Agriculture, Washington, D.C. 20250.

DEPARTMENT OF COMMERCE

Deputy Director for Operations, Office of Administrative Services, Department of Commerce, Washington, D.C. 20230.

DEPARTMENT OF DEFENSE

Director, Real Property and Natural Resources Division, Office of the Assistant Secretary of Defense (Installations and Logistics), Washington, D.C. 20301.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Director, Office of Facilities Engineering, Department of Health, Education, and Welfare, Washington, D.C. 20201.

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

Assistant Secretary for Community Planning and Development, Department of Housing and Urban Development, Washington, D.C. 20410.

DEPARTMENT OF THE INTERIOR

Deputy Assistant Secretary for Fish and Wildlife and Parks, Department of the Interior, Washington, D.C. 20240.

DEPARTMENT OF JUSTICE

Administrative Service Program Staff, Office of Management and Finance, Department of Justice, Washington, D.C. 20530.

DEPARTMENT OF TRANSPORTATION

Community Affairs Specialist, Office of Consumer Affairs, Department of Transportation, Washington, D.C. 20590.

DEPARTMENT OF THE TREASURY

Director of Administrative Programs, Department of the Treasury, Washington, D.C. 20220.

INDEPENDENT AGENCIES

Publications Editor, Appalachian Regional Commission, 1666 Connecticut Avenue, NW., Washington, D.C. 20235.

Director, Data and Support Systems Division, Environmental Protection Agency, Washington, D.C. 20460.

Secretary, Federal Communications Commission, Washington, D.C. 20554.

Advisor of the Chairman, Federal Power Commission, Washington, D.C. 20435.

Historian, Project Environment and Conservation, Federal Power Commission, 825 North Capitol Street, Washington, D.C. 20426.

Historic Preservation Office, General Services Administration, Washington, D.C. 20405.

Chief, Section of Administrative Services, Interstate Commerce Commission, Washington, D.C. 20423.

Director, NASA History Program Office, National Aeronautics and Space Administration, Washington, D.C. 20546.

Landmarks Coordinator, National Capital Planning Commission, 1325 G Street, N.W., Washington, D.C. 20005.

Special Assistant to the Director, National Science Foundation, Washington, D.C. 20550.

Administrator, Small Business Administration, 1441 L Street, N.W., Washington, D.C. 20416.

Special Assistant to the Secretary, Smithsonian Institution, Washington, D.C. 20560.

Director of Reservoir Properties, Tennessee Valley Authority, 520 New Sprankle Building, Knoxville, Tennessee 37902.

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Assistant for Economic and Community Affairs, Office of the General Manager, Mail Station CA-311, U.S. Atomic Energy Commission, Washington, D.C. 20545.
Program Manager, Logistics and Engineering Department, U.S. Postal Service, L'Enfant Plaza West, Washington, D.C. 20260.
Historian, Veterans Administration, 810 Vermont Avenue, N.W., Washington, D.C. 20420
Chief, Planning and Reports, International Boundary and Water Commission, United States and Mexico, 200 IBWC Building, 4110 Rio Bravo, El Paso, Texas 79906.

The State Historic Preservation Officer is responsible for the development and implementation of a comprehensive State Historic Preservation Plan, based clearly on the State's history and established in conformance with local, State and Federal legislation and mechanisms, and approved by the Secretary of the Interior. The State Historic Preservation Officer supervises a professional staff in conducting a statewide survey of historic resources addressed to every aspect of the State's history. From this continuing inventory of historic resources, an integral part of the State Historic Preservation Plan, the State Historic Preservation Officer may nominate properties for inclusion in the National Register of Historic Places. The nominated properties which are approved by the National Park Service are entered in the National Register of Historic Places by the Director, Office of Archeology and Historic Preservation, National Park Service.

The following criteria shall be used by the States in evaluating properties for nomination to the National Register of Historic Places and by the National Park Service in reviewing State nominations.

National Register Criteria of Evaluation

The quality of significance in American history, architecture, archeology, and culture is present in districts, sites, buildings, structures, and objects of State and local importance that possess integrity of location design, setting, materials, workmanship, feeling, and association, and:

1. That are associated with events that have made a significant contribution to the broad patterns of our history; or

2. That are associated with the lives of persons significant in our past; or

3. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

4. That have yielded, or may be likely to yield, information important in prehistory or history.

Criteria considerations. Ordinarily cemeteries, birthplaces, or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years shall not be considered eligible for the National Register. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

(a) A religious property depriving primary significance from architectural or artistic distinction or historical importance.

(b) A building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event.

(c) A birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building directly associated with his productive life.

(d) A cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events.

(e) A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived.

(f) A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own historical significance.

(g) A property achieving significance within the past 50 years if it is of exceptional importance.

C. *Grants for historic preservation.* The National Historic Preservation Act also authorizes a program of grants-in-aid to States for comprehensive statewide historic site surveys and preservation plans. Grants are also authorized to States, local governments, private organizations, and individuals for preservation projects in accordance with an approved statewide plan. All grants are made through the States. The State Liaison Officer may then distribute the funds to other approved public and private recipients. Funds may be used for acquisition, protection, rehabilitation, restoration, and reconstruction of properties included in the National Register of Historic Places.

ADVISORY COUNCIL ON HISTORIC PRESERVATION

Procedures for The Protection of Historic and Cultural Properties

Properties included in, or eligible for, inclusion in the National Register are afforded protection under the National Historic Preservation Act of 1966 and Executive Order 11593, May 13, 1971, "Protection and Enhancement of the Cultural Environment." The Advisory Council on Historic Preservation has prescribed procedures for Federal agencies to follow. In accordance with these authorities these "Procedures for Protection of Historic and Cultural Properties" were published in the FEDERAL REGISTER of January 25, 1974 (39 FR 3366), and had been codified in 36 CFR Part 800. These procedures are set forth below:

Procedures for the Protection of Historic and Cultural Properties in Accordance With Section 106 of the National Historic Preservation Act and Sections 1(3) and 2(b) of Executive Order 11593

800.1 *Purpose and authorities.* The National Historic Preservation Act of 1966 created the Advisory Council on Historic Preservation, an independent agency of the Executive branch of the Federal Government, to advise the President and Congress on matters involving historic preservation. Its members are the Secretary of the Interior, the Secretary of Housing and Urban Development, the Secretary of the Treasury, the Secretary of Commerce, the Attorney General, the Secretary of Transportation, the Secretary of Agriculture, the Administrator of the General Services Administration, the Secretary of the Smithsonian Institution, the Chairman of the National Trust for Historic Preservation, and 10 citizen members appointed by the President on the basis of their outstanding service in the field of historic preservation.

The Council reviews Federal, federally assisted, and federally licensed undertakings affecting cultural properties as defined herein, in accordance with the following authorities:

(a) *Section 106 of the National Historic Preservation Act.* Section 106 requires that Federal, federally assisted, and federally licensed undertakings affecting properties included in the National Register of Historic Places be submitted to the Council for review and comment prior to the approval of any such undertaking by the Federal agency.

(b) *Section 1(3) of Executive Order 11593, May 13, 1971, "Protection and Enhancement of the Cultural Environment."* Section 1(3) requires that Federal agencies, in consultation with the Council, establish procedures regarding the preservation and enhancement of nonfederally owned historic and cultural properties in the execution of their plans and programs. After soliciting consultation with the Federal agencies, the Advisory Council has adopted procedures, set forth in 36 CFR 800.3 through 800.10, to achieve this objective and Federal agencies should fulfill their responsibilities under section 1(3) by following these procedures. The Council further recommends that Federal agencies use these procedures as a guide in the development, in consultation with the Council, of their required internal procedures.

(c) *Section 2(b) of Executive Order 11593, May 13, 1971, "Protection and Enhancement of the Cultural Environment."* Federal agencies are required, by section 2(a) of the Executive Order, to locate, inventory, and nominate properties under their jurisdiction or control to the National Register. Until such processes are complete, Federal agencies must submit proposals for the transfer, sale, demolition, or substantial alteration of federally owned properties eligible for inclusion in the National Register to the

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Council for review and comment. Federal agencies must continue to comply with section 2(b) review requirements, even after the initial inventory is complete, when they obtain jurisdiction or control over additional properties that are eligible for inclusion in the National Register or when properties under their jurisdiction or control are found to be eligible for inclusion in the National Register subsequent to the initial inventory.

800.2 *Coordination with agency requirements under the National Environmental Policy Act.* Section 101(b)(4) of the National Environmental Policy Act (NEPA) declares that one objective of the national environmental policy is to "preserve important historic, cultural, and natural aspects of our national heritage and maintain, wherever possible, an environment which supports diversity and variety of individual choice." In order to meet this objective, the Advisory Council instructs Federal agencies to coordinate NEPA compliance with the separate responsibilities of the National Historic Preservation Act and Executive Order 11593 to ensure that historic and cultural resources are given proper consideration in the preparation of environmental impact statements. Agency obligations pursuant to the National Historic Preservation Act and Executive Order 11593 are independent from NEPA and must be complied with even when an environmental impact statement is not required. However, where both NEPA and the National Historic Preservation Act or Executive Order 11593 are applicable, the Council on Environmental Quality, in its Guidelines for the Preparation of Environmental Impact Statements (40 CFR Part 1500), directs that compliance with section 103 (2)(C) of NEPA should, to the extent possible, be combined with other statutory obligations—such as the National Historic Preservation Act and Executive Order 11593—to yield a single document which meets all applicable requirements. To achieve this objective, Federal agencies should undertake, to the fullest extent possible, compliance with the procedures set forth below whenever properties included in or eligible for inclusion in the National Register are involved in a project to ensure that obligations under the National Historic Preservation Act and Executive Order 11593 are fulfilled during the preparation of a draft environmental impact statement required under section 102(2)(C) of NEPA. The Advisory Council recommends that compliance with these procedures be undertaken at the earliest stages of the environmental impact statement process to expedite review of the statement. Statements on projects affecting properties included in or eligible for inclusion in the National Register should be sent directly to the Advisory Council for review. All statements involving historic, architectural, archeological, or cultural resources, whether or not included in or eligible for inclusion in the National Register, should be submitted to the Department of Interior for review.

800.3 *Definitions.* As used in these procedures:

(a) "National Historic Preservation Act" means Public Law 89-665, approved October 15, 1966, an "Act to establish a program for the preservation of additional historic properties throughout the Nation and for other purposes," 80 Stat. 915, 16 U.S.C. 470, as amended, 84 Stat. 204 (1970) and 87 Stat. 139 (1973) hereinafter referred to as "the Act."

(b) "Executive Order" means Executive Order 11593, May 13, 1971, "Protection and Enhancement of the Cultural Environment," 36 FR 8921, 16 U.S.C. 470.

(c) "Undertaking" means any Federal action, activity, or program, or the approval, sanction, assistance, or support of any other action, activity or program, including but not limited to:

(1) Recommendations or favorable reports relating to legislation, including requests for appropriations. The requirement for following these procedures applies to both: Agency recommendations on their own proposals for legislation and agency reports on legislation initiated elsewhere. In the latter case only the agency which has primary responsibility for the subject matter involved will comply with these procedures.

(2) New and continuing projects and program activities: directly undertaken by Federal agencies; or supported in whole or in part through Federal contracts, grants, subsidies, loans, or other forms of funding assistance; or involving a Federal lease, permit, license, certificate, or other entitlement for use.

(3) The making, modification, or establishment of regulations, rules, procedures, and policy.

(d) "National Register" means the National Register of Historic Places, which is a register of districts, sites, buildings, structures, and objects, significant in American history, architecture, archeology, and culture, maintained by the Secretary of the Interior under authority of section 2(b) of the Historic Sites Act of 1935 (49 Stat. 666, 16 U.S.C. 461) and section 101(a)(1) of the National Historic Preservation Act. The National Register is published in its entirety in the FEDERAL REGISTER each year in February. Addenda are published on the first Tuesday of each month.

(e) "National Register property" means a district, site, building, structure, or object included in the National Register.

(f) "Property eligible for inclusion in the National Register" means any district, site, building, structure, or object which the Secretary of the Interior determines is likely to meet the National Register Criteria. As these determinations are made, a listing is published in the FEDERAL REGISTER on the first Tuesday of each month, as a supplement to the National Register.

(g) "Decision" means the exercise of agency authority at any stage of an undertaking where alterations might be made in the undertaking to modify its impact upon historic and cultural properties.

(h) "Agency Official" means the head of the Federal agency having responsibility for the undertaking or a subordinate employee of the Federal agency to whom such authority has been delegated.

(i) "Chairman" means the Chairman of the Advisory Council on Historic Preservation, or such member designated to act in his stead.

(j) "Executive Director" means the Executive Director of the Advisory Council on Historic Preservation established by Section 205 of the Act, or his designated representative.

(k) "State Historic Preservation Officer" means the official within each State, authorized by the State at the request of the Secretary of the Interior, to act as liaison for purposes of implementing the Act, or his designated representative.

(l) "Secretary" means the Secretary of the Interior, or his designee authorized to carry out the responsibilities of the Secretary of the Interior under Executive Order 11593.

800.4 *Agency procedures.* At the earliest stage of planning or consideration of a proposed undertaking, including comprehensive or area-wide planning in which provision may be made for an undertaking or an undertaking may be proposed, the Agency Official shall take the following steps to comply with the requirements of section 106 of the National Historic Preservation Act and sections 1(3) and 2(b) of Executive Order 11593.

(a) *Identification of resources.* As early as possible and in all cases prior to agency decision concerning an undertaking, the Agency Official shall identify properties located within the area of the undertaking's potential environmental impact that are included in or eligible for inclusion in the National Register

(1) To identify properties included in the National Register, the Agency Official shall consult the National Register including monthly supplements.

(2) To identify properties eligible for inclusion in the National Register, the Agency Official shall, in consultation with the appropriate State Historic Preservation Officer, apply the National Register Criteria, set forth in 36 CFR 800.10 to all properties possessing historical architectural, archeological, or cultural value located within the area of the undertaking's potential environmental impact. If the Agency Official determines that a property appears to meet the Criteria, or if it is questionable whether the Criteria are met, the Agency Official shall request, in writing, an opinion from the Secretary of the Interior respecting the property's eligibility for inclusion in the National Register. The Secretary of the Interior's opinion respecting the eligibility of a property for inclusion in the National Register shall be conclusive for the purposes of these procedures.

(b) *Determination of effect.* For each property included in or eligible for inclusion in the National Register that is located within the area of the undertaking's potential environmental impact, the Agency Official, in consultation with the

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State Historic Preservation Officer, shall apply the Criteria of Effect, set forth in 36 CFR 800.8, to determine whether the undertaking has an effect upon the property. Upon applying the Criteria and finding no effect, the undertaking may proceed. The Agency Official shall keep adequate documentation of a determination of no effect.

(c) *Effect established.* Upon finding that the undertaking will have any effect upon a property included in or eligible for inclusion in the National Register, the Agency Official, in consultation with the State Historic Preservation Officer, shall apply the Criteria of Adverse Effect, set forth in 36 CFR 800.9, to determine whether the effect of the undertaking is adverse.

(d) *Finding of no adverse effect.* Upon finding the effect not to be adverse, the Agency Official shall forward adequate documentation of the determination, including evidence of the views of the State Historic Preservation Officer, to the Executive Director for review. Unless the Executive Director notes an objection to the determination within 45 days after receipt of adequate documentation, the Agency Official may proceed with the undertaking.

(e) *Finding of adverse effect.* Upon finding the effect to be adverse or upon notification that the Executive Director does not accept a determination of no adverse effect, the Agency Official shall: (1) Request, in writing, the comments of the Advisory Council; (2) notify the State Historic Preservation Officer of this request; (3) prepare a preliminary case report; and (4) proceed with the consultation process set forth in 36 CFR 800.5.

(f) *Preliminary case report.* Upon requesting the comments of the Advisory Council, the Agency Official shall provide the Executive Director and the State Historic Preservation Officer with a preliminary case report, containing all relevant information concerning the undertaking. The Agency Official shall obtain such information and material from any applicant, grants or other beneficiary involved in the undertaking as may be required for the proper evaluation of the undertaking, its effects, and alternate courses of action.

800.5 *Consultation process*—(a) *Response to request for comments.* Upon receipt of a request for Advisory Council comments pursuant to 36 CFR 800.4(e), the Executive Director shall acknowledge the request and shall initiate the consultation process.

(b) *On-site inspection.* At the request of the Agency Official, the State Historic Preservation Officer, or the Executive Director, the Agency Official shall conduct an on-site inspection with the Executive Director, the State Historic Preservation Officer and such other representatives of national, State, or local units of government and public and private organizations that the consulting parties deem appropriate.

(c) *Public information meeting.* At the request of the Agency Official, the State Historic Preservation Officer, or the Executive Director, the Executive Director shall conduct a meeting open to the public, where representatives of national, State, or local units of government, representatives of public or private organizations, and interested citizens can receive information and express their views on the undertaking, its effects on historic and cultural properties, and alternate courses of action. The Agency Official shall provide adequate facilities for the meeting and shall afford appropriate notice to the public in advance of the meeting.

(d) *Consideration of alternatives.* Upon review of the pending case and subsequent to any on-site inspection and any public information meeting, the Executive Director shall consult with the Agency Official and State Historic Preservation Officer to determine whether there is a feasible and prudent alternative to avoid or satisfactorily mitigate any adverse effect.

(e) *Avoidance of adverse effect.* If the Agency Official, the State Historic Preservation Officer, and the Executive Director select and unanimously agree upon a feasible and prudent alternative to avoid the adverse effect of the undertaking, they shall execute a Memorandum of Agreement acknowledging avoidance of adverse effect. This document shall be forwarded to the Chairman for review pursuant to 36 CFR 800.6(a).

(f) *Mitigation of adverse effect.* If the consulting parties are unable to unanimously agree upon a feasible and prudent alternative to avoid any adverse effect, the Executive Director shall consult with the Agency Official and the State Historic Preservation Officer to determine whether there is a feasible and prudent alternative to satisfactorily mitigate the adverse effect of the undertaking. Upon finding and unanimously agreeing to such an alternative, they shall execute a Memorandum of Agreement acknowledging satisfactory mitigation of adverse effect. This document shall be forwarded to the Chairman for review pursuant to 36 CFR 8006(a).

(g) *Memorandum of Agreement.* It shall be the responsibility of the Executive Director to prepare each Memorandum of Agreement required under these procedures. In preparation of such a document the Executive Director may request the Agency Official to prepare a proposal for inclusion in the Memorandum, detailing actions to be taken to avoid or mitigate the adverse effect.

(h) *Failure to avoid or mitigate adverse effect.* Upon the failure of consulting parties to find and unanimously agree upon a feasible and prudent alternative to avoid or satisfactorily mitigate the adverse effect, the Executive Director shall request the Chairman to schedule the undertaking for consideration at the next Council meeting and notify the Agency Official of the request. Upon notification of the request, the Agency Official shall delay further processing of the undertaking until the Council has transmitted its comments or the Chairman has given notice that the undertaking will not be considered at a Council meeting.

800.6 *Council procedures*—(a) *Review of Memorandum of Agreement.* Upon receipt of a Memorandum of Agreement acknowledging avoidance of adverse effect or satisfactory mitigation of adverse effect, the Chairman shall institute a 30-day review period. Unless the Chairman shall notify the Agency Official that the matter has been placed on the agenda for consideration at a Council meeting, the memorandum shall become final: (1) Upon the expiration of the 30-day review period with no action taken; or (2) when signed by the Chairman. Memoranda duly executed in accordance with these procedures shall constitute the comments of the Advisory Council. Notice of executed Memoranda of Agreement shall be published in the FEDERAL REGISTER monthly.

(b) *Response to request for consideration at Council meeting.* Upon receipt of a request from the Executive Director for consideration of the proposed undertaking at a Council meeting, the Chairman shall determine whether or not the undertaking will be considered and notify the Agency Official of his decision. To assist the Chairman in this determination, the Agency Official and the State Historic Preservation Officer shall provide such reports and information as may be required. If the Chairman decides against consideration at a Council meeting, he will submit a written summary of the undertaking and his decision to each member of the Council. If any member of the Council notes an objection to the decision within 15 days of the Chairman's decision, the undertaking will be scheduled for consideration at a Council meeting. If the Council members have no objection, the Chairman shall notify the Agency Official at the end of the 15-day period that the undertaking may proceed.

(c) *Decision to consider the undertaking.* Upon determination that the Council will consider an undertaking, the Chairman shall: (1) Schedule the matter for consideration at a regular meeting no less than 60 days from the date the request was received, or in exceptional cases, schedule the matter for consideration in an unassembled or special meeting; (2) notify the Agency Official and the State Historic Preservation Officer of the date on which comments will be considered; and (3) authorize the Executive Director to prepare a case report.

(d) *Content of the case report.* For purposes of arriving at comments, the Advisory Council prescribes that certain reports be made available to it and accepts reports and statements from other interested parties. Specific informational requirements are enumerated below. Generally, the requirements represent an explication or elaboration of principles contained in the Criteria of Effect and in the Criteria of Adverse Effect. The Council notes, however, that the Act recognizes historical and cultural resources should be preserved "as a living part of our community life and development." Consequently, in arriving at final comments, the Council considers those elements in an undertaking that have relevance beyond historical and cultural

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concerns. To assist it in weighing the public interest, the Council welcomes information not only bearing upon physical, sensory, or esthetic effects but also information concerning economic, social, and other benefits or detriments that will result from the undertaking.

(e) *Elements of the case report.* The report on which the Council relies for comment shall consist of:

(1) A report from the Executive Director to include a verification of the legal and historical status of the property; an assessment of the historical, architectural, archeological, or cultural significance of the property; a statement indicating the special value of features to be most affected by the undertaking; an evaluation of the total effect of the undertaking upon the property; a critical review of any known feasible and prudent alternatives; and recommendations to remove or mitigate the adverse effect;

(2) A report from the Agency Official requesting comment to include a general discussion and chronology of the proposed undertaking; when appropriate, an account of the steps taken to comply with section 102(2)(A) of the National Environmental Policy Act of 1969 (83 Stat. 852, 42 U.S.C. 4321); an evaluation of the effect of the undertaking upon the property, with particular reference to the impact on the historic, architectural, archeological and cultural values; steps taken or proposed by the agency to take into account, avoid, or mitigate adverse effects of the undertaking; a thorough discussion of alternate courses of action; and, if applicable and available, a copy of the draft environmental statement prepared in compliance with section 102(2)(C) of the National Environmental Policy Act of 1969;

(3) A report from any other Federal agency having under consideration an undertaking that will concurrently or ultimately affect the property, including a general description and chronology of that undertaking and discussion of the relation between that undertaking and the undertaking being considered by the Council;

(4) A report from the State Historic Preservation Officer to include an assessment of the significance of the property; an identification of features of special value; and evaluation of the effect of the undertaking upon the property and its specific components; an evaluation of known alternate courses of action; a discussion of present or proposed participation of State and local agencies or organizations in preserving or assisting in preserving the property; an indication of the support or opposition of units of government and public and private agencies and organizations within the State; and the recommendations of his office;

(5) A report by an applicant or potential recipient when the Council considers comments upon an application for a contract, grant, subsidy, loan, or other form of funding assistance, or an application for a Federal lease, permit, license, certificate, or other entitlement for use. Arrangements for the submission and presentation of reports by applicants or potential recipients shall be made through the Agency Official having jurisdiction in the matter; and

(6) Other pertinent reports, statements, correspondence, transcripts, minutes, and documents received by the Council from any and all parties, public or private. Reports submitted pursuant to this section should be received by the Council at least two weeks prior to a Council meeting.

(f) *Coordination of case reports and statements.* In considerations involving more than one Federal department, either directly or indirectly, the Agency Official requesting comment shall act as a coordinator in arranging for a full assessment and discussion of all interdepartmental facets of the problem and prepare a record of such coordination to be made available to the Council. At the request of the Council, the State Historic Preservation Officer shall notify appropriate governmental units and public and private organizations within the State of the pending consideration of the undertaking by the Council, and coordinate the presentation of written statements to the Council.

(g) *Council meetings.* The Council does not hold formal hearings to consider comments under these procedures. Two weeks notice shall be given, by publication in the FEDERAL REGISTER, of all meetings involving Council review of Federal undertakings in accordance with these procedures. Reports and statements will be presented to the Council in open session in accordance with a prearranged agenda. Regular meetings of the Council generally occur on the first Wednesday and Thursday of February, May, August, and November.

(h) *Oral statements to the Council.* A schedule shall provide for oral statements from the Executive Director; the referring Agency Official presently or potentially involved; the applicant or potential recipient, when appropriate; the State Historic Preservation Officer; and representatives of national, State, or local units of government and public and private organizations. Parties wishing to make oral remarks shall submit written statements of position in advance to the Executive Director.

(i) *Comments by the Council.* The comments of the Council, issued after consideration of an undertaking at a Council meeting, shall take the form of a three-part statement, including an introduction, findings, and a conclusion. The statement shall include notice to the Agency Official of the report required under 36 CFR 800.6(j) of these procedures. Comments shall be made to the head of the Federal Agency requesting comment or having responsibility for the undertaking. Immediately thereafter, the comments of the Council will be forwarded to the President and the Congress as a special report under authority of section 202(b) of the Act and published as soon as possible in the FEDERAL REGISTER. Comments shall be available to the public upon receipt of the comments by the head of the Federal agency.

(j) *Report of agency action in response to Council comments.* When a final decision on the undertaking is reached by the Federal Agency, the Agency Official shall submit a written report to the Council containing a description of actions taken by the Federal Agency subsequent to the Council's comments; a description of actions taken by other parties pursuant to the actions of the Federal Agency; and the ultimate effect of such actions on the property involved. The Council may request supplementary reports if the nature of the undertaking requires them.

(k) *Record of the Council.* The records of the Council shall consist of a record of the proceedings at each meeting, the case report prepared by the Executive Director, and all other reports, statements, transcripts, correspondence, and documents received.

(l) *Continuing review jurisdiction.* When the Council has commented upon an undertaking pursuant to 36 CFR 800.6 such as a comprehensive or area-wide plan that by its nature requires subsequent action by the Federal Agency, the Council will consider its comments or approval to extend only to the undertaking as reviewed. The Agency Official shall ensure that subsequent action related to the undertaking is submitted to the Council for review in accordance with 36 CFR 800.4(c) of these procedures when that action is found to have an adverse effect on a property included in or eligible for inclusion in the National Register.

800.7 *Other powers of the Council—*(a) *Comment or report upon non-Federal undertaking.* The Council will exercise the broader advisory powers, vested by section 202(a)(1) of the Act, to recommend measures concerning a non-Federal undertaking that will adversely affect a property included in or eligible for inclusion in the National Register: (1) Upon request from the President of the United States, the President of the U.S. Senate, or the Speaker of the House of Representatives, or (2) when agreed upon by a majority vote of the members of the Council.

(b) *Comment or report upon Federal undertaking in special circumstances.* The Council will exercise its authority to comment to Federal agencies in certain special situations even written notice that an undertaking will have an effect has not been received. For example, the Council may choose to comment in situations where an objection is made to a Federal agency finding of "no effect."

800.8 *Criteria of effect.* A Federal, federally assisted, or federally licensed undertaking shall be considered to have an effect on a National Register property or property eligible for inclusion in the National Register (districts, sites, buildings, structures, and objects, including their settings) when any condition of the undertaking causes or may cause any change, beneficial or adverse, in the quality of the historical, architectural, archeological, or cultural charac-

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ter that qualifies the property under the National Register Criteria.

800.9 *Criteria of adverse effect.* Generally, adverse effects occur under conditions which include but are not limited to:

(a) Destruction or alteration of all or part of a property;

(b) Isolation from or alteration of its surrounding environment;

(c) Introduction of visual, audible, or atmospheric elements that are out of character with the property or alter its setting;

(d) Transfer or sale of a federally owned property without adequate conditions or restrictions regarding preservation, maintenance, or use; and

(e) Neglect of a property resulting in its deterioration or destruction.

800.10 *National Register Criteria.* (a) "National Register Criteria" means the following criteria established by the Secretary of the Interior for use in evaluating and determining the eligibility of properties for listing in the National Register:

The quality of significance in American history, architecture, archeology, and culture is present in districts, sites, buildings, structures, and objects of State and local importance that possess integrity of location, design, setting, materials, workmanship, feeling and association and:

(1) That are associated with events that have made a significant contribution to the broad patterns of our history; or

(2) That are associated with the lives of persons significant in our past; or

(3) That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

(4) That have yielded, or may be likely to yield, information important in prehistory or history.

(b) *Criteria considerations.* Ordinarily cemeteries, birthplaces, or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years shall not be considered eligible for the National Register. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

(1) A religious property deriving primary significance from architectural or artistic distinction or historical importance;

(2) A building or structure removed from its original location but which is the surviving structure most importantly associated with a historic person or event;

(3) A birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building directly associated with his productive life;

(4) A cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events;

(5) A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived;

(6) A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own historical significance; or

(7) A property achieving significance within the past 50 years if it is of exceptional importance.

The following properties were listed on the National Register as of December 31, 1974. Those which are marked by an asterisk have been designated National Historic Landmarks by the Secretary of the Interior.

NATIONAL REGISTER ENTRIES

Alabama

Autauga County

Prattville vicinity, *Whittaker, Jack, House*, S of Prattville off AL 14 (10-25-74).

Baldwin County

Bridgehead vicinity, *Blakley*, north of Bridgehead (8-26-74).

Gasque vicinity, **Fort Morgan*, western terminus of Alabama 180.

Stockton vicinity, *Battle Creek Indian Mounds*, approximately 7 miles west of Stockton (12-9-74).

Tensaw vicinity, *Fort Mims Site*, sec. 46 R. 2 E., T. 2 N.

Barbour County

Clayton, *Miller-Martin Town House*, Louisville Avenue (12-16-74).

Clayton, *Petty-Roberts-Beatty House, (Cotagon House)*, 108 North Midway (1-21-74).

Eufaula, *Bray-Barron Home*, North Eufaula Avenue.

Eufaula, *Cato House*, 833 West Barbour Street.

Eufaula, *Drewry-Mitchell-Moorer House*, 940 North Eufaula Avenue.

Eufaula, *Fendall Hall*, Barbour Street.

Eufaula, *Kendall Manor*, 834 West Broad Street.

Eufaula, *Kiels-McNab-Doughtie House*, Barbour Street.

Eufaula, *Lore Historic District*, bounded by Barbour Street on the south, Eufaula Avenue on the west, Browder Street on the north and Livingston Street on the east (12-13-73).

Eufaula, *McNab Bank Building*, Broad Street.

Eufaula, *Sheppard Cottage*, East Barbour Street.

Eufaula, *Shorter Mansion*, 340 North Eufaula Avenue.

Eufaula, *Sparks, Governor, House (H. C. Hart House)*, 207 Broad Street.

Eufaula, *The Tavern (River Tavern)*, 168 Riverside Drive.

Eufaula, *Wellborn (Welborn) House*, Livingston Avenue.

Bibb County

Brierfield, *Montebrier*.

Brierfield vicinity, *Brierfield Furnace*, west of Brierfield (11-20-74).

Blount County

Oneonta vicinity, *Horton Mill Covered Bridge*, 5 miles north of Oneonta on Route 5.

Calhoun County

Anniston, *Anniston Inn Kitchen*, 130 west 15th Street.

Coldwater, *Coldwater Creek Covered Bridge*, spans Coldwater Creek 0.5 mile from I-20 (also in Talladega County).

Jacksonville, *Francis, Dr. J. C., Office*, 100 Gayle Street.

Chambers County

LaFayette, *Oliver, Ernest McCarty, House*, North LaFayette Street (U.S. 431) (1-21-74).

Cherokee County

Cedar Bluff vicinity, *Cornwall Furnace*, 3 miles north of Cedar Bluff.

Clay County

Ashland, *Black, Hugo, House*, South Second Street East (Ala. 77) (10-9-73).

Cleburne County

Edwardsville vicinity, *Shoal Creek Church*, 4 mile northwest of Edwardsville on Forest Service Road 548 in Talladega National Forest (12-4-74).

Coffee County

Elba, *Coffee County Courthouse*, Courthouse Square.

Enterprise, *Boll Weevil Monument*, intersection of Main and College Streets.

Enterprise, *Seaboard Coastline Depot*, Railroad and West College (8-7-74).

Colbert County

**Barton Hall*.

Florence vicinity, **Wilson Dam*, Tennessee River, on Alabama 133 (also in Lauderdale County).

Leighton vicinity, *La Grange Rock Shelter*, southwest of Leighton (8-13-74).

Tuscumbia, *Colbert County Courthouse Square Historic District*.

Tuscumbia, *Ivy Green (Helen Keller Birthplace)*, 300 West North Common.

Coosa County

Rockford, *Coosa County Jail*, off Alabama 22 (8-20-74).

Covington County

Opp, *Shepard, William T., House*, Paley Road (8-14-73).

Cullman County

Cullman vicinity, *Clarkson Bridge*, west of Cullman off County Road 11 (8-23-74).

Dale County

Newton, *Oates-Reynolds Memorial Building*, Oates Street (8-13-74).

Dallas County

Selma, *Morgan, John Tyler, House*, 719 Tremont.

Selma, *Sturdivant Hall (Watts-Parkman-Gillman House)*, 713 Mabry Street.

Selma, *Water Avenue Historic District*, Water Avenue.

Selma vicinity, *Cahaba*, 11 miles southwest of Selma, at junction Cahaba and Alabama Rivers.

De Kalb County

Fort Payne, *Fort Payne Opera House*, 510 road *Passenger Depot*, Northeast Fifth Street.

Fort Payne, *Fort Payne Opera House*, 510 Gault Avenue, North.

Title 34—Government Management

CHAPTER II—OFFICE OF FEDERAL MANAGEMENT POLICY, GENERAL SERVICES ADMINISTRATION

SUBCHAPTER D—PROPERTY MANAGEMENT

PART 233—GUIDELINES FOR AGENCY IMPLEMENTATION OF THE UNIFORM RELOCATION ASSISTANCE AND REAL PROPERTY ACQUISITION POLICIES ACT OF 1970, PUBLIC LAW 91-646 (FMC 74-8)

This document converts and revises Office of Management and Budget Circular A-103 into a General Services Administration Federal Management Circular (FMC 74-8) in accordance with Executive Order 11717, the President's Memorandum of September 6, 1973, to the heads of departments and agencies on the subject of the Act, and Office of Management and Budget Bulletin 74-4, which transferred certain Office of Management and Budget responsibilities to the General Services Administration.

FMC 74-8, dated October 4, 1974, transmits guidelines to be followed by departments and agencies for the development of regulations and procedures for implementing the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, Pub. L. 91-646.

Part 233, Guidelines for agency implementation of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, Pub. L. 91-646, is added to 34 CFR Chapter II to read as set forth below.

Effective date. This regulation is effective October 4, 1974.

Dated: October 4, 1974.

ARTHUR F. SAMPSON,
Administrator of General Services.

Sec.
233.1 Purpose.
233.2 Supersession.
233.3 Authority.
233.4 Intent.
233.5 Scope.
233.6 Policies.
233.7 Responsibilities.
233.8 Reporting requirement.
233.9 Inquiries.

AUTHORITY: Executive Order 11717 and President's Memorandum of September 6, 1973, to the heads of departments and agencies. Subject: The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970.

§ 233.1 Purpose.

This part transmits revised guidelines (Appendix A) to be followed by departments and agencies for developing regulations and procedures to implement the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, hereinafter referred to as the Act.

§ 233.2 Supersession.

The guidelines in Appendix A supersede the guidelines issued by the Office of Management and Budget Circular No. A-103, dated May 1, 1972. Appendix B is a summary of the major changes between the revised guidelines and the guidelines issued by Circular No. A-103.

§ 233.3 Authority.

The revised guidelines are promulgated pursuant to Executive Order 11717, May 9, 1973, and the President's Memorandum of September 8, 1973, to the heads of departments and agencies on the subject of the Act. A copy of the President's Memorandum of September 8, 1973, is included as Appendix C.[1]

§ 233.4 Intent.

The intent of this part and the revised guidelines is to provide for greater uniformity among Federal agencies in the administration of the Act.

§ 233.5 Scope.

This part applies to all programs or projects of a Federal agency which involve the acquisition of real property or the displacement of people, businesses, or farm operations. The part also applies to those federally assisted programs or projects conducted by a State agency, as the term is defined in the Act, which involve the acquisition of real property or cause the displacement of people, businesses, or farm operations. The geographical coverage includes the several States of the United States, the District of Columbia, the Commonwealth of Puerto Rico, any territorial possession of the United States, the Trust Territory of the Pacific Islands, and any political subdivision thereof.

§ 233.6 Policies.

The policies outlined in the guidelines are based on the provisions of the Act.

(a) *Uniform relocation assistance policies.* The Act specifies that Federal agencies involved in the administration of Federal or federally assisted programs resulting in the displacement of persons shall provide specific relocation services and payments to aid such persons. Services and payments within the scope of the Act shall be provided in a uniform, fair and equitable manner to assure that persons displaced by Federal and federally assisted projects do not suffer disproportionate injuries as a result of projects intended for the benefit of the public as a whole.

(b) *Uniform real property acquisition policies.* Chapter 10 of Appendix A prescribes specific practices for the acquisition of real property in Federal and federally assisted programs. The practices outlined in Chapter 10 require that real property be acquired in a manner that will:

(1) Assure consistent treatment of property owners affected by the various Federal and federally assisted programs;

(2) Promote the acquisition of properties by negotiation rather than condemnation; and

(3) Build public confidence in Federal and federally assisted land acquisition programs.

§ 233.7 Responsibilities.

Departments and agencies with programs that will result in the acquisition of real property, or the displacement of persons, businesses, or farm operations, should revise their regulations and procedures so that they will be consistent with the provisions of this part and the revised guidelines.

§ 233.8 Reporting requirement.

The annual report required by section 214 of the Act shall be submitted as specified in chapter 9 of the revised guidelines. This report has been cleared in accordance with FPMR 101-11.11 and assigned interagency report control number 1227-CSA-AN.

§ 233.9 Inquiries.

Further information concerning this part may be obtained by contacting:

General Services Administration (AMP)
Washington, DC 20405
Telephone: IDS 183-7528, FTS (202) 343-7528

APPENDIX A

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GUIDELINES FOR ISSUING REGULATIONS AND PROCEDURES THAT IMPLEMENT THE UNIFORM RELOCATION ASSISTANCE AND REAL PROPERTY ACQUISITION POLICIES ACT OF 1970

CHAPTER 1. GENERAL

1.1 *Purpose and coverage.* a. These guidelines are to assist Federal agencies in developing regulations and procedures to implement the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, hereinafter referred to as the Act, to assure uniform, fair, and equitable policies for the acquisition of real property and treatment of persons displaced by Federal and federally assisted programs. All references in these guidelines to sections or subsections are references to sections or subsections of the Act.

b. These guidelines are limited to those provisions of the Act identified by the interagency task force appointed in accordance

[1] Filed as part of original document.

with the President's memorandum of January 4, 1971. They also address those problem areas considered by the Relocation Assistance Implementation Committee (RAIC) since the issuance of OMB Circular A-103, May 1, 1972. In the event of any conflict between these guidelines and the provisions of the Act, or any other applicable law, the statutory provisions are controlling.

1.3 *General considerations.* a. In developing regulations and procedures under the Act and these guidelines, agencies should consider:

(1) House Report No. 91-1656 of December

(1) House Report No. 91-1656 of December 2, 1970, a report to accompany S.1, Committee on Public Works, House of Representatives, 91st Congress, 2nd Session; and

(2) Provisions of other applicable law, including Title VI of the Civil Rights Act of 1964, Title VIII of the Civil Rights Act of 1968, and good faith and reasonableness.

b. The Act shall be applied and administered to promote its underlying purposes and policies.

c. Agencies shall instruct officials responsible for programs under this Act that:

(1) A written notice of displacement must be given to each individual, family business, or farm operation to be displaced. The notice shall be served personally or by certified (or registered) first-class mail;

(2) In order to qualify for benefits under Title II of the Act as a displaced person, either of two conditions must be fulfilled.

(a) The person must have moved (or moved his personal property) as a result of the receipt of a written notice to vacate which may have been given before or after initiation of negotiations for acquisition of the property as prescribed by regulations issued by the head of the Federal agency (When negotiations are initiated prior to issuance of a written notice, all persons contacted by the negotiating agency should be advised that the benefits of the Act are available only when the person moves subsequent to receipt of a written notice.); or

(b) The subject real property must in fact have been acquired, and the person must have moved as a result of its acquisition (except in those instances covered by sections 217 and 219);

(3) Certain of the benefits provided by Title II of the Act are available as follows:

(a) Whenever the acquisition of, or notice to move from, real property used for a business or farm operation causes any person to move from other real property used for his dwelling or to move his personal property from such other real property, such person may receive the benefits provided by sections 203 (a) and (b) and 206, and

(b) If the head of the displacing agency determines that any person occupying property immediately adjacent to the real property acquired is caused substantial economic injury because of the acquisition, he may offer such person relocation advisory services under section 208(c);

(4) For real property acquisitions under Federal law, contracts or options to purchase real property shall not incorporate provisions for making payments for relocation costs and related items in Title II of the Act (Appraisers shall not give consideration to or include in their real property appraisals any allowances for the benefits provided by Title II. In the event of condemnation with a declaration of taking, the estimated compensation shall be determined solely on the basis of the appraised value of the real property with no consideration being given to or reference contained therein to the payments to be made under Title II of the Act.);

(5) Agency regulations shall provide that applications for benefits under the Act are to be made within 18 months from the date on which the displaced person moves from the real property acquired or to be acquired; or the date on which the displacing agency makes final payment of all costs of that real property, whichever is the later date (The head of an agency may extend this period upon a proper showing of good cause.); and

(6) The provisions of the Act apply to the acquisition of all real property for, and the relocation of all persons displaced by, Federal programs and projects and programs and projects undertaken by State agencies which receive Federal financial assistance for all or part of the cost. It is immaterial whether the real property is acquired by a Federal or State agency or whether Federal funds contribute to the cost of the real property.

1.3 *Agencies' regulations and procedures.* Departments and agencies with programs that will result in the acquisition of real property, the displacement of persons, or both, are urged to promptly revise or amend their regulations and procedures consistent with these Guidelines. A copy of the revised regulations and a copy of each agency's procedures pertaining to Title II and III of the Act shall be furnished to the Office of Federal Management Policy, General Services Administration, when they are issued. Copies of subsequent revisions to each agency's regulations and procedures shall also be furnished.

1.4 *Review of activities for compliance with Titles II and III.* The head of each Federal agency shall provide for periodic review of all Federal and federally assisted programs to ensure compliance with the provisions of Titles II and III of the Act.

1.5 *Public information.* The head of each Federal agency shall make available to the public full information concerning the agency's relocation programs. He shall ensure that persons to be displaced are fully informed at the earliest possible time, of such matters as available relocation payments and assistance; the specific plans and procedures for assuring that suitable replacement housing will be available for homeowners and tenants in advance of displacement; the eligibility requirements and procedures for obtaining such payments and assistance; and the right of administrative review by the head of the agency concerned, as provided by chapter 12.

1.6 *Relocation Assistance Implementation Committee (RAIC)*—a. *Background.* (1) To promote the uniform and effective administration of relocation assistance and real property acquisition programs, the Act authorizes and directs the heads of Federal agencies to consult together on the establishment of regulations and procedures for the administration of such programs.

(2) To achieve the uniformity required by the Act, the President, by memorandum of January 4, 1971, directed the Office of Management and Budget to form a Relocation Assistance Advisory Committee. The Relocation Assistance Advisory Committee was composed of representatives of the major Federal agencies responsible for the administration of programs involving the displacement of individuals, businesses, and farms.

(3) Following its initial establishment within the Office of Management and Budget, the name of the Relocation Assistance Advisory Committee was changed to Relocation Assistance Implementation Committee. The Committee name change more appropriately reflects its role.

(4) Pursuant to Executive Order 11717 and the President's statement of September 6, 1973, the functions and chairmanship of the Relocation Assistance Implementation Committee were transferred from the Office of Management and Budget to the General Services Administration.

b. *Membership and functions.* (1) RAIC serves as the official forum at the national level where duly appointed representatives of several major Federal departments consult together on the Government's real property acquisition and relocation programs. Represented on RAIC are the Departments of Agriculture; Defense; Health, Education, and Welfare; Housing and Urban Development; Interior; Justice; Transportation; and the General Services Administration. The United States Postal Service also participates in activities of the RAIC. The Administrator of General Services is the Chairman of the RAIC and he may invite other Federal agencies to participate as appropriate.

(2) RAIC is responsible for promoting the underlying purposes of the Act and for ensuring national uniformity, to the extent practicable, among Federal agencies with respect to real property acquisition and relocation assistance programs. These guidelines were prepared by RAIC and reflect the collective experience of the member agencies.

(3) In carrying out its responsibilities RAIC makes recommendations to the General Services Administration regarding:

(a) Revisions Federal agencies should make in their regulations and procedures to ensure national uniformity;

(b) Revisions to be made to the guidelines to assure compliance with the intent and spirit of the Act; and

(c) Need for new legislation.

1.7 *Liaison official for agencies not represented on the Committee.* Each agency that is responsible for the acquisition of real property or displacement of persons, businesses, or farm operations, and is not represented on the Committee s all designate an individual to serve as liaison to coordinate the agency's relocation activities with the General Services Administration. The name of the designee shall be submitted to the Administrator of General Services within 30 workdays from receipt of this part.

1.8 *Federal Regional Council (FRC) Uniform Relocation Assistance and Real Property Acquisition Coordination*—a. *Formation and organization.* (1) The chairmen of the Federal Regional Councils have been requested to ask council members to designate an agency representative who will be responsible for coordination of the agency's activities in the region for the implementation of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970. Agencies such as GSA and others having relocation assistance and real property acquisition programs, but who are not represented on the Federal Regional Councils, should be asked to provide designees also.

(2) The specific organization, structure, and procedures governing regional coordinating mechanisms (e.g., task force) shall be determined by each FRC but shall be consistent with normal FRC guidelines on supervision of interagency coordinating committees as promulgated by the Office of Management and Budget. Each FRC should, however, designate a lead staff member to ensure continuity and a focal point for coordination with agencies in the field and in Washington DC. Copies o. periodic reports to the FRC chairman should also be forwarded to the chairman of the RAIC Working Group, Office of Federal Management Policy, General Services Administration, in Washington, DC, for information.

b. *Objectives and responsibilities.* The prime objective of the FRC will be to provide an umbrella for regional coordination of relocation assistance and real property acquisition programs among concerned Federal and

federally assisted agencies. The FRC should undertake such programs as necessary to insure continuing coordination and information sharing among the various Federal, State, and local agencies concerned with relocation assistance and should:

(1) Assure effective coordination among Federal agencies in implementing real property acquisition and relocation assistance policies and programs within the region in a consistent and uniform basis.

(2) Assure effective coordination between Federal agencies and State and local Government officials concerned with relocation assistance and real property acquisition.

(3) Provide appropriate training/orientation programs for Federal, State, and local officials responsible for relocation assistance and real property acquisition as needed.

(4) Receive in the field to the extent feasible and practical, conflicts and inconsistencies identified in the implementation of the guidelines and related relocation assistance and real property acquisition policies. Those concerning agency policy matters which cannot be resolved in the field will be referred to OMB through its Under Secretaries' Group Representative for appropriate RAIC action by the chairman with a copy to OMB.

CHAPTER 2. ASSURANCE OF ADEQUATE REPLACEMENT HOUSING PRIOR TO REPLACEMENT

2.1 *Assurance of availability*—a. *Availability.* No Federal agency should proceed with any phase of a project or authorize a State agency to proceed with any phase of a project which will cause the displacement of any person until the Federal agency has determined, or received satisfactory assurances from the displacing State agency, that within a reasonable period of time prior to displacement, there will be available on a basis consistent with the requirements of Title VIII of the Civil Rights Act of 1968 (P.L. 90-284), in areas not generally less desirable in regard to public utilities and public and commercial facilities and at rents or prices within the financial means of the families and individuals displaced, decent, safe, and sanitary dwellings, as described in d, below, equal in number to the number of, and available to, such displaced persons who require such dwellings and reasonably accessible to their places of employment.

b. *Support.* The determination or assurances shall be based on a current survey and analysis of available replacement housing by the displacing agency. The survey and analysis must take into account the competing demands on available housing. (See chapter 7.)

c. *Waiver.* Pursuant to section 205(c)(3) of the Act, the head of a Federal agency may prescribe by regulations those situations in which the assurances described in subparagraph 2.1a may be waived. These waivers shall be limited only to emergency or other extraordinary situations in which immediate possession of real property is of crucial importance. Each waiver of assurance of replacement housing shall be supported by appropriate findings and a determination of the necessity for the waiver. Determinations so made shall be included in the annual report required by section 214. (See chapter 9.)

d. *Decent, safe, and sanitary housing.* A decent, safe, and sanitary dwelling is one which is found to be in sound, clean and weather-tight condition, and which meets local housing codes. The following criteria should be used in determining if a dwelling unit is decent, safe, and sanitary. Adjustments may be made only in the cases of unusual circumstances or in unique geographic areas, as determined by the head of the Federal agency.

(1) *Housekeeping unit.* A housekeeping unit must include a kitchen with fully usable sink; a cooking stove, or connections for same; a separate complete bathroom; hot and cold running water in both the bathroom and the kitchen; an adequate and safe wiring system for lighting and other electrical services; and heating as required by climatic conditions and local codes.

(2) *Nonhousekeeping unit.* A nonhousekeeping unit is one which meets local code standards for boarding houses, hotels, or other congregate living. If local codes do not include requirements relating to space and sanitary facilities, standards will be subject to the approval of the head of the Federal agency.

(3) *Occupancy standards.* Occupancy standards for replacement housing shall comply with Federal agency approved occupancy requirements or shall comply with local codes.

(4) *Absence or inadequacy of local standards.* In those instances in which there is no local housing code, a local housing code does not contain certain minimum standards, or the standards are inadequate, the head of the Federal agency may establish the standards.

2.2 *Housing provided as a last resort.* When it is determined that adequate replacement housing is not available and cannot otherwise be made available, the head of the Federal agency may take action or approve action by a State agency to develop replacement housing. Federal agencies taking or approving such action for replacement housing will be guided by the criteria and procedures issued by the Secretary of Housing and Urban Development (24 CFR—Part 42, Subpart A) in accordance with the provision concerning section 205(a) of the Act in the President's memorandum of January 4, 1971. A State agency taking such action shall comply with the requirements and procedures of the Federal agency which provides the Federal financial assistance.

2.3 *Loans for planning and preliminary expenses.* Federal agencies will be guided by the criteria and procedures developed by the Secretary of Housing and Urban Development (24 CFR—Part 43, Subpart B) when providing loans to eligible borrowers for planning and other preliminary expenses authorized under section 215. A State agency providing such loans shall comply with the requirements and procedures of the Federal agency which provides the Federal financial assistance in accordance with the President's memorandum of January 4, 1971.

CHAPTER 3. MOVING AND RELATED EXPENSES

3.1 *Eligibility.* a. Any displaced person (including one who conducts a business or farm operation) is eligible to receive a payment for moving expenses. A person who lives on his business or farm property may be eligible for both moving and related expenses as a dwelling occupant in addition to being eligible for payments with respect to displacement from a business or farm operation.

b. Any person who moves from real property or moves his personal property from real property, as a result of the acquisition of such real property in whole or part, or as a result of a written notice of the acquiring agency to vacate real property, or solely for the purpose of section 203 (a) and (b) as a result of the acquisition of, or a written notice of the acquiring agency to vacate, other real property on which such person conducts a farm or business, is eligible to receive a payment for moving expenses.

3.2 *Actual reasonable expenses in moving.*—a. *Allowable moving expenses.* (1) Transportation of individuals, families, and personal property from the acquired site to the replacement site, not to exceed a distance of 50 miles, except where the displacing agency determines that relocation beyond this 50-mile area is justified;

(2) Packing, and unpacking, crating and uncrating of personal property;

(3) Advertising for packing, crating, and transportation when the displacing agency determines that it is necessary;

(4) Storage of personal property for a period generally not to exceed 12 months when the displacing agency determines that storage is necessary in connection with relocation;

(5) Insurance premiums covering loss and damage of personal property while in storage or transit;

(6) Removal, reinstallation, reestablishment, including such modification as deemed necessary by the Federal agency of, and reconnection of utilities for, machinery, equipment, appliances, and other items, not acquired as real property. Prior to payment of any expenses for removal and reinstallation of such property, the displaced person shall be required to agree in writing that the property is personalty and that the displacing agency is released from any payment for the property;

(7) Property lost, stolen, or damaged (not caused by the fault or negligence of the displaced person, his agent or employees), in the process of moving, where insurance to cover such loss or damage is not available; and

(8) Other reasonable expenses determined to be allowable under regulations issued by the head of the Federal agency.

b. *Limitations.* (1) If the displaced person accomplishes the move himself, the amount of payment shall not exceed the estimated cost of moving commercially, unless the head of the responsible Federal agency determines a greater amount is justified.

(2) If an item of personal property that is used in connection with any business or farm operation is not moved but is sold and promptly replaced with a comparable item, reimbursement shall not exceed the replacement cost minus the proceeds received from the sale, or the estimated cost of moving, whichever is less.

(3) If personal property that is used in connection with any business or farm operation to be moved is of low value and high bulk, and the cost of moving would be disproportionate in relation to the value in the judgment of the head of the Federal agency responsible for the program or project causing the displacement, the allowable reimbursement for the expense of moving the personal property shall not exceed the difference between the amount which would have been received for such item on liquidation and the cost of replacing the same with a comparable item available on the market. This provision will be applicable in the cases of moving of junk yards, stockpiled sand, gravel, minerals, metals, and similar items of personal property.

(4) If the cost of moving or relocating an outdoor advertising display or displays is determined to be equal to or in excess of the in-place value of the display, consideration should be given to acquiring the display or displays as a part of the real property, unless such an acquisition is prohibited by State law.

3.3 *Nonallowable moving expenses and losses.* a. Additional expenses incurred because of living in a new location;

b. Cost of moving structures or other improvements in which the displaced person reserved ownership except as otherwise provided by law;

c. Improvements to the replacement site, except when required by law;

d. Interest on loans to cover moving expenses;

e. Loss of good-will;
f. Loss of profits;
g. Loss of trained employees;
h. Personal injury;
i. Cost of preparing the application for moving and related expenses;
j. Payment of search cost in connection with locating a replacement dwelling; and
k. Such other items as the head of the Federal agency determines should be excluded.

3.4 *Expenses in searching for replacement business or farm.*—a. *Allowable.* (1) Actual travel costs;
(2) Extra costs for meals and lodging;
(3) Time spent in searching at the rate of the displaced person's salary or earnings, but not to exceed $10 per hour; and
(4) In the discretion of the displacing agency, necessary broker, real estate or other professional fees to locate a replacement business or farm operation under circumstances prescribed in Federal agency regulations.

b. *Limitation.* The total amount a displaced person may be paid for searching expenses may not exceed $500 unless the head of the Federal agency determines that a greater amount is justified because of the circumstances involved.

3.5 *Actual direct losses by business or farm operation.* If the displaced person does not move personal property, he shall be required to make a bona fide effort to sell it, and shall be reimbursed for the reasonable costs incurred.

a. When the business or farm operation is discontinued, the displaced person is entitled to the difference between the fair market value of the personal property for continued use at its location prior to displacement and the sale proceeds, or the estimated costs of moving 50 miles, whichever is less.

b. When the personal property is abandoned, the displaced person is entitled to payment for the fair market value of the property for continued use at its location prior to displacement or the estimated cost of moving 50 miles, whichever is less.

c. The cost of removal of the personal property shall not be considered as an offsetting charge against other payments to the displaced person.

CHAPTER 4. PAYMENTS IN LIEU OF MOVING AND RELATED EXPENSES

4.1 *Dwellings—schedules.* a. Subsection 202(b) provides that at the option of the displaced person he may receive a moving expense allowance not to exceed $300 based on schedules established by each agency head. Moving allowance schedules maintained by the respective State highway departments shall be used as the basis for the agency's schedules. These schedules should provide for adequate reimbursement in every locality. The Federal Highway Administration will approve all such schedules on a current basis, and will make them available to displacing agencies upon request.

b. Where there are no highway department schedules, the heads of the Federal agencies undertaking or providing Federal financial assistance to a project causing displacement in such areas shall cooperate in the development of a single moving expense schedule for the use of all displacing agencies.

c. A displaced person who elects to receive a payment based on a schedule shall be paid under the schedule used in the jurisdiction in which the displacement occurs regardless of where he relocates.

4.2 *Businesses—eligibility.* a. A person displaced from his business, as defined in subsection 101(7) (A), (B), and (C), is eligible under subsection 202(c) to receive a fixed payment in lieu of moving and related expenses. Care must be exercised in each instance, however, to assure that such payments are made only in connection with a bona fide business.

b. A payment in lieu of actual reasonable moving expenses may be made under section 202(c) to the displaced owner of a business only if the local agency determines that, during the two taxable years prior to displacement, or during such other period as the head of the Federal agency determines to be more equitable, the business:
(1) Had average annual gross receipts of at least $2,000 in value, or
(2) Had average annual net earnings of at least $1,000 in value; or
(3) Contributed at least 33⅓ percent of the average gross annual income of the owner(s), including income from all sources, such as welfare.
If the application of the above criteria obviously creates an inequity in a given case, the head of the Federal agency may approve the use of other criteria as determined appropriate.

c. Those businesses, described in subsection 101(7)(D) are not eligible under subsection 202(c) for a payment in lieu of moving and related expenses.

d. Where a displaced person is displaced from his place of business, no payment shall be made under subsection 202(c) until after the head of the displacing agency determines (1) that the business is not part of a commercial enterprise having at least one other establishment not being acquired, which is engaged in the same or similar business, and (2) that the business cannot be relocated without a substantial loss of existing patronage. The determination of loss of existing patronage shall be made by the displacing agency only after consideration of all pertinent circumstances, including but not limited to the following factors:
(1) Type of business conducted by the displaced concern;
(2) Nature of the clientele of the displaced concern; and
(3) Relative importance of the present and proposed location to the displaced business and the availability of a suitable replacement location for the displaced person.

4.3 *Farms.*—a. *Eligibility.* A payment in lieu of actual reasonable moving expenses may be made to the displaced owner of a farm operation according to the criteria established for displaced owners of businesses (See 4.2 b). Such a payment may be made to the displaced operator of a farm operation only if the acquiring agency determines that the farm operator has discontinued his entire farm operation at the present location or has relocated the entire farm operation.

b. *Partial taking.* In the case of a partial taking, the operator will be considered to have been displaced from a farm operation if:
(1) The part taken met the definition of a farm operation prior to the taking; or
(2) The taking caused the operator to be displaced from the farm operation on the remaining land; or
(3) The taking caused such a substantial change in the nature of the existing farm operation as to constitute a displacement.
If the use of the above criteria obviously creates an inequity in a given case, the head of the Federal agency may approve the use of other criteria as determined appropriate.

4.4 *Nonprofit organizations.* If a nonprofit organization is displaced, no payment shall be made under subsection 202 (c) until after the head of the Federal agency determines:
a. That the nonprofit organization cannot be relocated without a substantial loss of its existing patronage (The term "existing patronage" as used in connection with nonprofit organizations includes the persons, community, or clientele served or affected by the activities of the nonprofit organization); and
b. That the nonprofit organization is not part of a commercial enterprise having at least one other establishment not being acquired which is engaged in the same or similar activity.

4.5 *Net earnings.* The term "average annual net earnings" as used in subsection 202 (c) means one-half of any net earnings of the business or farm operation before Federal, State, and local income taxes, during the two taxable years immediately preceding the taxable year in which such business or farm operation moves from the real property acquired for such project, or during such other period as the head of the displacing agency determines to be more equitable for establishing such earnings, and includes any compensation paid by the business or farm operation to the owner, his spouse or his dependents during such period. If a business or farm operation has no net earnings, or has suffered losses during the period used to compute "average annual net earnings" it may nevertheless receive the $2,500 minimum payment authorized by this subsection.

4.6 *Amount of business fixed payment.* The fixed payment to a person displaced from a farm operation or from his place of business, including nonprofit organizations, shall be in an amount equal to the average annual net earnings of the business or farm operation, except that such a payment shall not be less than $2,500 nor more than $10,000.

CHAPTER 5. REPLACEMENT HOUSING PAYMENT FOR HOMEOWNERS

5.1 *Eligibility.* a. A displaced owner-occupant is eligible for a replacement housing payment authorized by section 203(a) not to exceed $15,000 if he meets both of the following requirements:
(1) Actually owned and occupied the acquired dwelling from which displaced for not less than 180 days prior to the initiation of negotiations for the property, or owned and occupied the property covered or qualified under section 217 for not less than 180 days prior to displacement (The term "initiation of negotiations" means the day on which the acquiring agency makes the first personal contact with the property owner or his representative and furnishes him with a written offer to purchase the real property.); and
(2) Purchases and occupies a replacement dwelling, which is decent, safe, and sanitary, not later than the end of the one-year period beginning on the date on which he receives from the displacing agency the final payment of all costs of the acquired dwelling, or on the date on which he moves from the acquired dwelling, whichever is the later date.

b. If a displaced owner-occupant of a dwelling is determined to be ineligible under this chapter, he may be eligible for a replacement housing payment under chapter 6.

5.2 *Comparable replacement dwelling.* For the purpose of rendering relocation assistance by making referrals for replacement housing and for computing the replacement housing payment, a comparable replacement dwelling is one which is decent, safe, and sanitary, and:
a. Functionally equivalent and substantially the same as the acquired dwelling, but not excluding newly constructed housing;

b. Adequate in size to meet the needs of the displaced family or individual. (However, at the option of the displaced person, a replacement dwelling may exceed his needs when the replacement dwelling has the same number of rooms or the equivalent square footage as the dwelling from which he was displaced.);

c. Open to all persons regardless of race, color, religion, or national origin, consistent with the requirement of the Civil Rights Act of 1964 and Title VIII of the Civil Rights Act of 1968;

d. Located in an area not generally less desirable than the one in which the acquired dwelling is located with respect to:

(1) Neighborhood conditions, including but not limited to municipal services and other environmental factors;

(2) Public utilities; and

(3) Public and commercial facilities;

e. Reasonably accessible to the displaced person's place of employment or potential place of employment;

f. Within the financial means of the displaced family or individual; and

g. Available on the market to the displaced person.

If housing meeting the requirement of this paragraph is not available on the market, the head of a displacing agency may, upon a proper finding of the need therefor, consider available housing exceeding these basic criteria.

5.3 *Computation of replacement housing payment.* The replacement housing payment of not more than $15,000 comprises the following:

a. *Differential payment for replacement housing.* The head of the Federal agency may determine the amount which, if any, when added to the acquisition cost of the dwelling acquired by the displacing agency, is necessary to purchase a comparable replacement dwelling by either establishing a schedule or by using a comparative method. The relocatee is bound to the method selected for use by the displacing agency.

(1) *Schedule method.* The agency may establish a schedule of reasonable acquisition costs for comparable replacement dwellings of the various types of dwellings to be acquired and available on the private market. The schedule shall be based on a current market analysis sufficient to support determinations of the amount for each type of dwelling to be acquired. When more than one Federal agency is causing displacement in a community or an area, the heads of the agencies concerned shall coordinate the establishment of the schedule for replacement housing payments.

(2) *Comparative method.* The agency may determine the price of a comparable replacement dwelling by selecting a dwelling or dwellings that are most representative of the dwelling unit acquired, are available to the displaced person, and meet the definition of comparable replacement dwellings. A single dwelling shall be used only when additional comparable dwellings are not available.

(3) *Alternate method.* The head of the displacing agency may develop criteria for computing replacement housing payments when neither the schedule method nor the comparative method is feasible. An alternate method proposed by a State agency should be subject to prior concurrence of the appropriate Federal agency.

(4) *Limitations.* The amount established as the differential payment for the replacement housing sets the upper limit of this payment.

(a) If the displaced person voluntarily purchases and occupies a decent, safe, and sanitary dwelling at a price less than the above, the comparable replacement housing payment shall be reduced to the amount required to pay the difference between the acquisition price of the acquired dwelling and the actual purchase price of the replacement dwelling.

(b) If the displaced person voluntarily purchases and occupies a decent, safe, and sanitary dwelling at a price less than the acquisition price of the acquired dwelling, no differential payment shall be made.

b. *Interest payment.* The head of the Federal agency shall determine the amount, if any, necessary to compensate a displaced person for any increased interest costs, including points paid by the purchaser. Such amount shall be paid only if the acquired dwelling was encumbered by a bona fide mortgage. The following shall be considered:

(1) The payment shall be equal to the excess in the aggregate interest and other debt service costs of the amount of the principal of the mortgage on the replacement dwelling which is equal to the unpaid balance of the bona fide mortgage on the acquired dwelling, at the time of acquisition, over the remaining term of the mortgage on the acquired dwelling, reduced to discounted present value.

(2) The discount rate shall be the prevailing interest rate paid on savings deposits by commercial banks in the general area in which the replacement dwelling is located.

(3) A "bona fide mortgage" is one which was a valid lien on the acquired dwelling for not less than 180 days prior to the initiation of negotiations. All bona fide mortgages on the dwelling acquired by the displacing agency will be used to compute the increased interest cost portion of the replacement housing payment.

(4) The computation of the payment for increased interest costs will be based on the actual term of the new mortgage or the remaining term of the old mortgage, whichever is the lesser, and the computation will be based on the actual amount of the new mortgage or the amount of the old mortgage, whichever is the lesser.

(a) Seller's points are not to be included in the interest computation.

(b) The actual interest rate of the new mortgage will be used in the computation.

(c) Purchaser's points and/or loan origination fees will be added to the computed interest payment.

(5) However, the interest payment shall be based on the present value of the reasonable cost of the interest differential, including points paid by the purchaser, on the amount of the unpaid debt on the acquired dwelling for its remaining term.

(6) See Figure 5.3.1, Format for Computation of Interest Payment.

c. *Incidental expenses.* (1) The head of the Federal agency shall determine the amount, if any, necessary to reimburse a displaced person for reasonable costs incurred by him incident to the purchase of the replacement dwelling (but not including prepaid expenses) such as:

(a) Legal, closing, and related costs including title search, preparing conveyance instruments, notary fees, surveys, preparing plats, and charges incident to recordation;

(b) Lenders', FHA, or VA, appraisal fees;

(c) FHA application fee;

(d) Certification of structural soundness when required by lender, FHA, or VA;

(e) Credit report;

(f) Title policies or abstracts of title;

(g) Escrow agent's fee; and

(h) State revenue stamps or sale or transfer taxes.

(2) No fee, cost, charge, or expense is reimbursable as an incidental expense which is determined to be a part of the finance charge under the Truth in Lending Act, Title I, Public Law 90-321, and Regulation "Z" (12 CFR Part 226) issued pursuant thereto by the Board of Governors of the Federal Reserve System.

d. *Case going through condemnation.* No property owner should be deprived of the earliest possible payment of the replacement housing amounts to which he is rightfully due. The following procedure shall be used on cases involving condemnation:

(1) An advance replacement housing payment can be computed and paid to a property owner if the determination of the acquisition price will be delayed pending the outcome of condemnation proceedings. The agency may make a provisional replacement housing payment to the displaced homeowner based on the agency's maximum offer for the property, providing the homeowner enters into an agreement with the Agency that:

(a) Upon final determination of the condemnation proceedings, the replacement housing payment will be recomputed using the acquisition price determined by the court as compared to the actual price paid or the amount determined necessary to acquire a comparable, decent, safe, and sanitary dwelling; and

(b) If the amount awarded in the condemnation proceedings as the fair market value of the property acquired plus the amount of the recomputed replacement housing payment exceeds the price paid for, or the acquiring agency's determined cost of a comparable dwelling, he will refund to the acquiring agency, an amount equal to the amount of the excess. However, in no event shall he be required to refund more than the amount of the replacement housing payment advanced.

(2) If the property owner does not agree to such adjustment, the replacement housing payment shall be deferred until the case is finally adjudicated and computed on the basis of the final determination, using the award as the acquisition price.

5.4 *Mortgage insurance.* The head of any Federal agency administering Federal mortgage insurance programs may, upon application by a mortgagee, insure any mortgage (including advances during construction) on a comparable replacement dwelling executed by a displaced person assisted under this section, if the mortgage is eligible for insurance under any Federal law administered by the agency notwithstanding any requirements under the law relating to age, physical condition, or other personal characteristics of eligible mortgagors and may make commitments for the insurance of the mortgage prior to the date of execution of the mortgage.

REQUIRED INFORMATION

1. Outstanding balance of mortgage on acquired dwelling	$
2. Outstanding balance of mortgage on replacement dwelling	$
3. Lesser of Line 1 or Line 2	$
4. Number of months remaining until last payment is due for mortgage on acquired dwelling	
5. Number of months remaining until last payment is due for mortgage on replacement dwelling	
6. Lesser of Line 4 or Line 5	
7. Annual interest rate of mortgage on acquired dwelling (percent)	
8. Annual interest rate of mortgage on replacement dwelling (or, if it is lower, the prevailing annual interest rate currently charged by mortgage lending institutions in the general area in which the replacement dwelling is located) (percent)	
9. Prevailing annual interest rate paid on standard passbook savings accounts by commercial banks (percent)	
10. If applicable, any debt service costs on the loan on the replacement dwelling, such as points paid by the purchaser which are not reimbursable as an incidental expense	$

DEVELOPMENT OF MONTHLY PAYMENT FIGURES

A. Monthly payment required to amortize a loan of $ (Line 3) in ..... (Line 6) months at an annual interest rate of ..... (Line 7) percent	$
B. Monthly payment required to amortize a loan of $ (Line 3) in ..... (Line 6) months at an annual interest rate of ..... (Line 8) percent	$
C. Monthly payment required to amortize a loan of $ (Line 3) in ..... (Line 6) months at an annual interest rate of ..... (Line 9) percent	$

CALCULATION OF INTEREST PAYMENT

Step 1 Subtract A from B:	
Monthly payment based on rate for replacement dwelling (B)	$
Monthly payment based on rate for acquired dwelling (A)	−$
Result (difference)	$
Step 2 Divide result (difference) of Step 1 by C (carry to 6 decimal places):	
Result (difference) from Step 1	$
Monthly payment based on savings rate (C)	÷$
Result (quotient)	
Step 3 Multiply outstanding balance of mortgage on acquired dwelling by result (quotient) of Step 2:	
Outstanding Balance (from Line 3)	$
Result (quotient) of Step 2	×
Result (product)	$
Step 4 Add to result (product) of Step 3 any debt service costs on the loan on the replacement dwelling:	
Result (product) of Step 3, first mortgage	$
Result (product) of Step 3, second mortgage[1]	$
Sum or difference, as applicable[1]	$
Add debt service costs on loan on replacement dwelling (Line 10)	$
Amount of interest payment	$

[1] If there is more than one outstanding mortgage on an acquired dwelling, the discounted value of each mortgage must be determined. To do this, a separate computation is made to each mortgage through Step 3. A consolidated Step 4 is then completed.

CHAPTER 6 REPLACEMENT HOUSING PAYMENTS FOR TENANTS AND CERTAIN OTHERS

6.1 *Eligibility.* a. A displaced tenant or owner-occupant of a dwelling for less than 180 days is eligible for a replacement housing payment not to exceed $4,000, as authorized by section 204, if he actually occupied the dwelling for not less than 90 days prior to the initiation of negotiations for acquisition of the property or actually occupied the property covered or qualified under section 217 for not less than 90 days prior to displacement. The term "initiation of negotiations" means the day on which the acquiring agency makes the first personal contact with the property owner or his representative and furnishes him with a written offer to purchase the real property. Agencies' regulations shall provide that tenants and other persons occupying the property shall be advised when negotiations for the property are initiated with the owner thereof.

b. An owner-occupant of a dwelling for not less than 180 days prior to the initiation of negotiations is eligible for a replacement housing payment as a tenant, as authorized by section 204, when he rents a decent, safe, and sanitary replacement dwelling instead of purchasing and occupying a replacement decent, safe, and sanitary dwelling not later than the end of the one-year period beginning on the date on which he receives from the displacing agency final payment for all costs for the acquired dwelling, or on the date on which he moves from the acquired dwelling, whichever is the later date.

6.2 *Computation of replacement housing payments for displaced tenants.* A displaced tenant is eligible for a rental replacement housing payment; or, if he purchases replacement housing within 1 year from displacement, he is eligible for a down payment, including expenses incidental to closing, not to exceed $4,000.

a. *Rental replacement housing payment.* The head of the Federal agency involved may determine the amount necessary to rent a comparable replacement dwelling by either establishing a schedule or by using a comparative method.

(1) *Schedule method.* The agency may establish a rental schedule for renting comparable replacement dwellings as described in paragraph 5.2 and which are available in the private market for the various types of dwellings to be acquired. The payment shall be computed by determining the amount necessary to rent a comparable replacement dwelling for 4 years (the average monthly cost from the schedule) and subtracting from that amount forty-eight times the average month's rent paid by the displaced tenant in the last 3 months prior to initiation of negotiation, if such rent was reasonable. Agency regulations may prescribe circumstances which may dictate the use of economic rent rather than actual rent paid by the displaced tenant. For purposes of these guidelines, economic rent is defined as the amount of rent the displaced tenant would have had to pay for a comparable dwelling unit in an area similar to the neighborhood in which the dwelling unit to be acquired is located. The schedule should be based on current analysis of the market to determine an amount for each type of dwelling required. When more than one Federal agency is causing the displacement in a community or an area, the agency heads shall cooperate in choosing the method for computing the replacement housing payment and may use uniform schedules of average rental housing in the community or area.

(2) *Comparative method.* The agency may determine the average month's rent by selecting one or more dwellings most representative of the dwelling unit acquired, which are available to the displaced person and meet the definition of comparable replacement dwellings as described in paragraph 5.2. The payment should be computed by determining the amount necessary to rent a comparable replacement dwelling for 4 years and subtracting from such amount forty-eight times the average month's rent paid by the displaced tenant in the last 3 months prior to initiation of negotiations, if the rent was reasonable. Agency regulations may prescribe circumstances which may dictate the use of economic rather than actual rent paid by the displaced tenant.

(3) *Exceptions.* The head of the Federal agency may establish the average month's rent paid by the displaced person by using more than 3 months if he deems it advisable. If rent is being paid to the displacing agency, economic rent shall be used in determining the amount of the payment to which the displaced tenant is entitled.

(4) *Alternate to (1) and (2), above.* When neither method is feasible, the head of the Federal agency shall develop criteria for computing the payment.

(5) *Limitation.* The amount of the rental replacement housing payment shall be computed by subtracting the economic rent of the acquired dwelling from the lesser of:

(a) The amount of rent actually paid for the replacement dwelling; or

(b) The amount determined by the displacing agency as necessary to rent a comparable replacement dwelling.

(6) *Disbursement of rental replacement housing payment.* The head of the Federal agency shall develop procedures to implement section 204 to provide, within the $4,000 and four-year limitations of that section, a rental replacement housing payment that will enable the displacee to rent comparable, decent, safe, and sanitary housing. The amount of

3.57c

the rental payment under section 204(1) shall be determined and paid in a lump sum, except it shall be paid in installments if the displaced person so requests.

b. *Purchases—replacement housing payment.* If the tenant elects to purchase instead of renting, the payment shall be computed by determining the amount necessary to enable him to make a down payment and to cover incidental expenses on the purchase of replacement housing, as follows:

(1) The amount of the down payment shall be the lesser of:

(a) The amount that would be required as a down payment for financing a conventional loan on a comparable dwelling; or

(b) The amount required as a down payment for financing a conventional loan on the replacement dwelling actually purchased.

The amount determined shall be added to the amount required to be paid by the purchaser as points and/or origination or loan services fee if such fees are normal to real estate transactions in the area on the comparable dwelling or the replacement dwelling, whichever is the lesser.

(2) Incidental expenses of closing the transaction are those as described in subparagraph 5.3c

(3) The maximum payment shall not exceed $4,000, except that if more than $2,000 is required, the tenant must match any amount in excess of $2,000 by an equal amount in making the down payment.

(4) The full amount of the replacement housing payment must be applied to the purchase price and incidental costs shown on the closing statement.

6.3 *Computation of replacement housing payments for certain others.* a. A displaced owner-occupant who does not qualify for a replacement housing payment under chapter 5 because of the 180 days occupancy requirement and elects to rent is eligible for a rental replacement housing payment not to exceed $4,000. The payment shall be computed in the same manner as that shown in subpargraph 6.2a, except that the present rental rate for the acquired dwelling shall be economic rent as determined by market data.

b. A displaced owner-occupant who does not qualify for a replacement housing payment under chapter 5 because of the 180 day occupancy requirement and elects to purchase a replacement dwelling is eligible for a replacement housing down payment and closing costs not to exceed $4,000. The payment shall be computed in the same manner as that shown in subparagraph 6.2b.

CHAPTER 7. RELOCATION ASSISTANCE ADVISORY SERVICES

7.1 *Relocation assistance advisory program.* Under section 205, the head of a Federal agency shall require a relocation assistance advisory program for persons displaced as a result of Federal or federally assisted programs or projects. Federal agencies shall provide the advisory program where Federal projects are involved; State agencies shall provide the advisory program when federally assisted projects are involved. Each relocation assistance advisory program shall include such measures, facilities, or services as may be necessary or appropriate to perform all of the tasks detailed in section 205(c).

7.2 *Coordination of planned relocation activities—a. Federal coordination.* When two or more Federal agencies contemplate displacement activities in a given community or area, the heads of the respective agencies responsible for the planned activities shall require that appropriate channels of communication be established between the agencies for the purpose of planning relocation activities and coordinating available housing resources. The agencies involved shall consult with the appropriate Housing and Urban Development Regional/Area Office within the jurisdictional area concerning the availability of housing. Figure 7.2.1, HUD Field Office Jurisdictions, is a directory of regional area offices, which will be maintained on a current basis by the Department of Housing and Urban Development. Subsequent updated directories will be furnished to agencies upon request. The agencies causing the displacement shall designate at least one representative who will meet periodically with the representatives of other Federal agencies to review the impact of their respective programs on the community or area.

b. *Local coordination.* To further insure maximum coordination of relocation activities in a given community or area, each Federal agency's regulations shall require that the displacing agency consult appropriate local officials before approving any proposed project in the community, consistent with the requirements of the procedures promulgated by the Office of Management and Budget Circular A-95 (Revised). That circular provides a central point for identifying local officials.

7.3 *Contracting for relocation services—a. Contracting with central relocation agency.* The head of a displacing agency contemplating the initiation of displacement activities shall consider contracting with the central relocation agency in a community or area for carrying out its relocation activities. Federal agency regulations and procedures shall require specific performance standards for these services. The appropriate Housing and Urban Development Regional/Area Office shall provide information and assistance, on request from other Federal agencies, concerning these services.

b. *Contracting with others.* When a centralized relocation agency is not available in a community or if in the judgment of the displacing agency the centralized agency does not have the capacity to provide the necessary services, within the time required by the agency's program, the displacing agency may contract with another public agency or a private contractor who can provide the necessary relocation services.

7.4 *General contacts—a. Veterans Administration (VA).* The Veterans Administration maintains a housing counseling service and a displaced persons priority program for providing VA-owned housing to displaced persons. These services may be made available to persons displaced by Federal and federally assisted programs and the local VA Loan Guarantee Office should be contacted.

b. *Small Business Administration.* The Small Business Administration provides technical and loan counseling services for small businesses. A displaced businessman should be advised of these services.

c. *Department of Agriculture.* The Department of Agriculture provides many services through its direct action farmer assistance programs, activities in rural nonfarm communities and also urban communities of under 10,000 population. Coordination with the Farmer's Home Administration, Department of Agriculture, is recommended when a farm operation is displaced.

d. *Local governmental organizations.* Local governmental organizations and agencies may have rent supplement, public housing, or related relocation assistance programs which may be utilized to provide housing for the occupants displaced from a project. Local programs should be utilized where they exist. Local non-governmental associations may also be used in helping a displaced person. Local real estate boards, apartment owners associations, home builders associations, and other organizations may provide information and services that will help obtain comparable replacement housing for displaced persons and suitable replacement sites for displaced businesses. Also many States have veterans' organizations which offer services to veterans. The availability of such State organizations should be ascertained and used

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

FIELD OFFICE JURISDICTIONS

OCTOBER 15, 1971

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CHAPTER 8 FEDERALLY ASSISTED PROGRAMS

8.1 *Assurances*—a. *Information.* The assurances required of State agencies by sections 210 and 305 shall include a statement that the affected persons will be adequately informed of the benefits, policies, and procedures described in the assurances.

b. *Inability to provide assurances.* The head of a Federal agency shall not approve or authorize any action by a State agency which will result in the displacement of any person or the acquisition of any real property except in accordance with the following requirements:

(1) A State agency has provided satisfactory assurances as required by sections 210 and 305; or

(2) A State agency's assurances are accompanied by a statement in which it identifies any of the assurances required by section 305 which it is unable to provide, in whole or in part, under its laws. The statement should be supported by an opinion of the chief legal officer of the State agency or other appropriate legal officer. Federal agencies administering federally assisted programs may adopt procedures setting forth the conditions under which projects will be approved when State agencies cannot fully comply with section 305. In all cases there must be full compliance with all assurances required by section 210.

c. *Compliance with sections 301 and 302.* A State agency, as part of the assurances required by section 305, shall provide a statement indicating the extent to which it can comply with the provisions of sections 301 and 302. If the State agency indicates that it is unable to comply fully with any of these policies, its statement shall be supported by an opinion of the chief legal officer of the State agency or other appropriate legal officer. State agencies should comply with sections 301 and 302 if, under State law, compliance is legally possible.

d. *Monitoring assurances.* The heads of Federal agencies shall take continuing action to insure that State agencies are acting in accordance with the assurances they have provided.

8.2 *Administration of relocation assistance programs*—a. *Approval.* A State agency electing to contract for services pursuant to section 212 shall enter into a written contract consistent with the regulations of the

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Federal agency administering the project or program causing the displacement. The head of the Federal agency shall take affirmative action to assure that the contract is so administered as to provide uniform and effective relocation for all displaced persons, consistent with these guidelines.

b. *Contract for services by State agencies.* Contracts shall include, as a minimum, the following provisions:

(1) That payments and assistance shall be provided in accordance with Federal agency regulations implementing these guidelines;

(2) That records required by Federal agency regulations shall be retained for a period of at least 3 years and shall be available for inspection by representatives of the Federal agency involved and the General Accounting Office;

(3) Clauses required by Federal agency regulations implementing Title VI of the Civil Rights Act of 1964 (Public Law 88-353); and

(4) Any other provision approved by the head of the Federal agency administering the federally assisted program or project.

CHAPTER 9. ANNUAL REPORT

9.1 *General.* a. Section 214 requires the head of each Federal agency with responsibilities for Federal or federally assisted programs that come within the purview of the Act to prepare and submit an annual report to the President on the activities of the reporting agency with respect to the programs and policies established or authorized by the Act. The President must submit these reports, together with his comments or recommendations, to the Congress not later than January 15 of each year, ending January 15, 1978. The report prescribed by this chapter shall be submitted to the Administrator of General Services each year after January 1975.

b. The report required by section 214 shall be prepared on a fiscal year basis and submitted to the Administrator of General Services. Each report shall consist of narrative comments and supporting statistical data.

9.2 *Submission to General Services Administration.* The original and 4 copies of the complete report shall be submitted to the Administrator of General Services, not later than October 1 of each year.

9.3 *Narrative comments.* The narrative comment portion of the report shall include the following:

a. *Assurance of required replacement housing.* (1) Agency's comments concerning the effectiveness of the provisions of the Act relating to assurances of the availability of comparable, decent, safe, and sanitary replacement housing for displaced homeowners and tenants;

(2) A description of the actions taken by the agency to assure compliance with the requirements of sections 205(c)(3), 205(b) and 210(3) concerning such assurances; and

(3) Information on all court decisions affecting the agency that concern the adequacy of replacement housing.

b. *Agency's actions to achieve objectives of the Act.* (1) A description of the actions taken by the agency to achieve the objectives of the policies of Congress, declared in the Act to provide uniform and equal treatment, to the greatest extent practicable, for all persons displaced by or having real property taken for Federal or federally assisted programs; and

(2) The provisions adopted by the agency for coordination with other Federal, State, and local displacing agencies.

c. *Progress in achieving objectives of the Act.* Progress of the agency in the various programs conducted or administered, indicating:

(1) Success in the coordination of agency relocation activities with other Federal, State, and local agencies;

(2) Agency's experience with and the cost of utilizing section 205(a) authority to provide replacement housing, citing difficulties, if any, in obtaining funds for this purpose and the impact on specific projects;

(3) Agency's experience with and cost of implementing section 215 concerning loans for planning and obtaining federally insured mortgage financing for replacement housing;

(4) For federally assisted programs under each agency's jurisdiction, enumerate the States, if any, not in compliance with the Act on the reporting date (If compliance by any State does not extend to any or all federally assisted programs conducted or administered by the agency, the programs excepted should be indicated, and an explanation should be furnished for the basis of the States' inability to comply. In all such instances, indicate the expected date for full compliance by the State.); and

(5) Adverse effects of the Act, if any, on programs conducted by the Agency.

d. *Effect of the Act on the public.* Describe any indicated effects of the relocation program and policies on the public, reporting conclusions obtained from surveys, special studies, and other sources relating to the effects of the implementation of the Act on a neighborhood or community.

e. *Recommendations.* Agency recommendations for further improvement in relocation assistance and land acquisitions programs, policies, and implementing laws and regulations shall include any proposals for amendments or revisions to:

(1) General Services Administration guidelines;

(2) Federal legislation; or

(3) State legislation.

f. *Agency regulations.* Report the date regulations and significant revisions thereto were published in the FEDERAL REGISTER by the agency and major organizational units of the agency.

g. *Waiver of assurance of replacement housing.* Describe any situation or circumstances which required a waiver of assurance of replacement housing, pursuant to subsection 205(c)(3). For any waivers reported, submit the agency's findings and the determination supporting waiver of the requirements of the subsection.

9.4 *Statistical data.* Agencies and departments shall also provide statistical data with the narrative reports Departments shall furnish data separately for each Federal program and each federally assisted program, together with a summary for the whole department. The data shall be provided in the format of the following attached figures[1]:

Figure 9.4.1	Payments and Expenses Under Title II—Part I
Figure 9.4.2	Payments and Expenses Under Title II—Parts II and III
Figure 9.4.3	Uniform Real Property Acquisition Policy—Title III

CHAPTER 10. UNIFORM REAL PROPERTY ACQUISITION POLICY

10.1 *Applicability.* The provisions of Title III apply to the acquisition of real property for Federal and federally assisted programs or projects.

10.2 *Acquisition procedures*—a. *Just compensation.* Section 301(3) establishes the policy that before initiation of negotiations for the acquisition of real property the head of the Federal agency concerned shall establish an amount which he believes to be just compensation therefor. In no event shall that amount be less than the agency's approved appraisal of the fair market value of the property.

b. *Initiation of negotiations*—(1) *Statement to be furnished to the owner.* When negotiations for the acquisition of real property are initiated, the owner shall be provided with a written statement concerning the proposed acquisition. This statement shall include, as a minimum, the following:

(a) Identification of the real property and the estate or interest therein to be acquired, including the buildings, structures, and other improvements on the land and the fixtures considered to be a part of the real property; and

(b) The amount of the estimated just compensation for the property to be acquired as determined by the acquiring agency and a statement of the basis therefor. In the case of a partial taking, damages, if any, to the remaining real property shall be separately stated.

(2) *Offer to purchase.* The head of the Federal agency shall make a prompt offer to purchase the property for the amount in the statement.

10.3 *Appraisal standards.* For the purpose of promoting uniformity under section 301 (3), the head of each Federal agency shall establish for all Federal or federally assisted programs under his jurisdiction standards for appraisals used in such programs, criteria for determining the qualifications of appraisers, and a system of review by qualified appraisers, consistent with the current issue of the Uniform Appraisal Standards for Federal Land Acquisition published by the Interagency Land Acquisition Conference.

10.4 *Notice to move.* Subsection 301(5) provides that, to the greatest extent practicable, no person lawfully occupying real property shall be required to move from a dwelling or to move his business or farm operation without at least 90 days written notice from the head of the displacing agency of the date by which such move is required. This subsection applies only in those instances where actual displacement of persons, businesses, or farm operations occurs.

10.5 *Federally assisted programs.* The head of each Federal agency administering Federal financially assisted programs carried out by State agencies should require that State agencies reimburse owners for necessary expenses as specified in sections 202 and 206. The head of each Federal agency also should require that all State agencies comply with the provisions of sections 301 and 302 if compliance is legally possible under State law.

CHAPTER 11. DEFINITIONS

11.1 *Applicability.* The regulations of all Federal agencies should conform with the definitions contained in the Act and these guidelines. These definitions are limited to the implementation of the Act. The head of a Federal agency may expand these definitions to ensure greater clarity and the successful implementation of his programs; however, such modifications shall not result in a deviation in concept from these definitions.

11.2 *General.* The following definitions are in other chapters of the guidelines and shall be applied as indicated in 11.1 above:

a. Comparable replacement housing, paragraph 5.2;

b. Decent, safe, and sanitary housing, subparagraph 2.1d;

c. Economic rent, subparagraph 6.2a(1);

d. Incidental expenses, subparagraph 5.3c;

e. Initiation of negotiations, subparagraphs 5.1a(1) and 6.1a;

f. Interest payment, subparagraph 5.3b; and

g. Net earnings, paragraph 4.5

11.3 *Definitions*—a. *The Act.* "The Act" means the Uniform Relocation Assistance and

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Real Property Acquisition Policies Act of 1970 (Public Law 91 646), approved January 2, 1971.

b. *Displacing agency.* "Displacing agency" means a Federal agency in the case of a direct Federal project, or a State agency, as defined in the Act, in the case of a project receiving Federal financial assistance whose project is causing the displacement of a person, business or a farm operation.

c. *Dwelling.* "Dwelling" means the place of permanent or customary and usual abode of a person. It includes a single family building; a one-family unit in a multi-family building; a unit of a condominium or cooperative housing project, any other residential unit, including a mobile home which is either considered to be real property under State law, or cannot be moved without substantial damage or unreasonable cost or is not a decent, safe, and sanitary dwelling.

d. *Family.* A "family" means two or more individuals who are related by blood, adoption, marriage or legal guardianship who live together as a family unit. However, upon appropriate determination by the head of the Federal agency, others who live together as a family unit may be treated as if they were a family for the purpose of determining benefits under Title II of the Act.

e. *Financial means.* For the purpose of determining financial means of families and individuals in accordance with section 205 (c)(3), a financial means test (ability to pay) must be made to satisfy the requirements set forth in paragraph 5.2f, of the guidelines. In order to meet a financial means test, a determination should be made as to the displaced person's ability to afford the replacement dwelling. In making this determination, the average monthly rental or housing cost (e.g., monthly mortgage payments, insurance for the dwelling unit, property taxes and other reasonable recurring related expenses) which the displaced person will be required to pay, in general, should not exceed 25 percent of the monthly gross income or the present ratio of housing payments to the income of the displaced family or individual, including supplemental payments made by public agencies. The regulation of each Federal agency may provide for determinations that 25 percent of monthly gross income for housing costs or the present ratio of housing payment to the individual income is or is not excessive to the other needs of the displaced family or individual, such as food, clothing, childcare, medical expenses, etc. In these cases, the head of the Federal agency shall establish criteria for determining the financial means of the displaced family or individual.

f. *Owner.* "Owner" means a person who holds fee title, a life estate, a 99 year lease, or an interest in a cooperative housing project which includes the right of occupancy of a dwelling unit, or is the contract purchaser of any such estate or interest, or who is possessed of such other proprietary interest in the property acquired as, in the judgment of the head of the Federal agency, warrants consideration as ownership. In the case of one who has succeeded to any of the foregoing interests by devise, bequest, inheritance or operation of law, the tenure of ownership, but not occupancy, of the succeeding owner shall include the tenure of the preceding owner.

CHAPTER 12 ADMINISTRATIVE REVIEW

12.1 *Procedures.* a. In connection with a direct Federal program or project, the head of a Federal agency should establish procedures for any person aggrieved by a determination as to eligibility for a payment authorized by the Act or the amount of a payment to have his application reviewed by the head of the Federal agency. In the case of a State program or project receiving Federal financial assistance, the regulations of the Federal agency administering the program or project should require an administrative review by the head of the State agency.

b. The procedures pertaining to administrative review shall ensure the following:

(1) Prompt consideration of all requests for administrative review;

(2) Prompt written notice to the claimant of any determination made in connection with his application. This written notice must include a full explanation concerning any amount claimed which has been disallowed; and

(3) Prompt payment of any amounts which are determined to be due the claimant.

APPENDIX B

SUMMARY OF SIGNIFICANT CHANGES

Chapter 1. Paragraph 1.1 includes specific references to real property acquisition programs and explains the reasons for additional coverage since the issuance of OMB Circular A-103.

Paragraph 1.3 incorporates references to the Office of Federal Management Policy, General Services Administration, in place of the Office of Management and Budget; agencies with programs that result in displacement of persons are included in addition to programs for land acquisition.

Paragraph 1.6 is added to discuss the history and functions of the Relocation Assistance Implementation Committee.

Paragraph 1.7 includes material formerly covered in the circular's transmittal letter and incorporates appropriate references to OSA.

Paragraph 1.8 provides for Federal Regional Council coordination activities to aid in implementing the Uniform Act.

Chapter 2. Code of Federal Regulations citations are given for the rules of the Department of Housing and Urban Development. (See paragraphs 2.2 and 2.3).

Chapter 4. Criteria for determining the eligibility of a business are provided in subparagraph 4.2b (RAIC Agreement Number 5).

Paragraph 4.8 adopts similar criteria for the existence of farm operations and for partial takings of farm operations (RAIC Agreements 6 and 11).

Chapter 5. Subparagraph 5.3a clarifies similar provision in OMB Circular A-103 providing that the head of the Federal agency may determine the method of computing the differential payment necessary to purchase comparable replacement housing. It also provides that the relocatee is bound to the method selected (RAIC Agreement Number 8).

Subparagraph 5.3b(3) is revised to provide that all bona fide mortgages will be used in computing the increased interest cost portion of the replacement housing payment. (RAIC Agreement Number 8 (Computation of Interest Payment) is included in subparagraphs 5.3b (4) and (6).

Subparagraph 5.3d provides for the computation of replacement housing payments on cases going through condemnation (RAIC Agreement Number 4).

Chapter 6. Subparagraph 6.2a(5) provides for the computation of the rental replacement housing payment. (RAIC Agreement Number 6).

Subparagraph 6.2a(6) provides for lump sum payment of rental replacement housing payments (RAIC Agreement Number 9).

Subparagraph 6.2b(1) provides for the computation of the amount of down payments made under section 204(2) (RAIC Agreements Numbers 2 and 10).

RAIC Agreement Number 12 concerns an interpretation of paragraph 6.2, but is not specifically incorporated.

Chapter 7. Paragraph 7.4 lists additional sources of relocation advisory services.

A listing of Housing and Urban Development Regional and Area Offices as of October 1973 is provided.

Chapter 8. All references to assurance requirements no longer applicable (subsequent to July 1, 1972) have been deleted. Subparagraph 8.1b(2) modifies requirements for assurances from State agencies under sections 210 and 305 accordingly.

Chapter 9. References to the Office of Management and Budget have been changed to the General Services Administration as appropriate.

Requirements for the submission of reports to HUD and HUD's report on recommendations have been deleted (subparagraph 9.2 b and c), as have been requirements for narrative comments from agencies on their implementing regulations and staffing and training programs (subparagraph 9.3b (2) and (3)).

The submission of published articles dealing with the Act is no longer required. Certain information blocks in Exhibit 1, Part I of A-103, have been eliminated; note 8, Figure 9.4.3 has been revised to provide for the computation of payments made in excess of the appraised value of the property.

Chapter 10. Paragraph 10.3 provides for the use of the current issue of the Uniform Appraisal Standards for Federal Land Acquisition.

Chapter 11. Revisions provide for further clarification of the term "State agency" (subparagraph 11.2b) and the qualifications of mobile homes as dwellings (subparagraph 11.3c).

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IV.

PLANNING AND STATE PROGRAM ASSISTANCE REGULATIONS

IV. 1

MONDAY, MAY 13, 1974

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ENVIRONMENTAL PROTECTION AGENCY

■

AREAWIDE WASTE TREATMENT MANAGEMENT PLANNING AGENCIES

Interim Grant Regulations

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Title 40—Protection of Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

PART 35—STATE AND LOCAL ASSISTANCE

Subpart F—Grants to Designated Areawide Waste Treatment Management Planning Agencies; Grant Applications; Grants; Plan Content and Approval

INTERIM REGULATIONS

The following regulations are promulgated as interim regulations by the Environmental Protection Agency. These regulations set forth the procedures for providing grants to approved designated planning agency(ies) for the development and operation of a continuing planning process intrinsic to the development of an approvable areawide waste treatment management plan and provide criteria for the designation of management agencies to carry out the plan. The regulations also specify the supporting data needed in a grant application as well as to the content and output of the areawide plan to be developed. Due to the fact that area and agency designations are in the process of being approved and grant applications from the approved designated agencies are imminent, these regulations are hereby adopted as interim. Interested parties and government agencies are encouraged to submit written comments, suggestions or objections to the Director, Grants Administration Division, Environmental Protection Agency, Washington, D.C. 20460. All comments, suggestions or objections received on or before June 27, 1974 will be considered.

The purpose of section 208 of the Federal Water Pollution Control Act Amendments of 1972 (the Act) is to encourage and facilitate the development and implementation of areawide waste treatment management plans at the local level in designated areas, and by the State outside such areas. Regulations for area and agency designations (40 CFR/Part 126) were promulgated on September 14, 1973, in accordance with section 208(a) of the Act.

Section 208 establishes a mechanism for intensive water quality/waste control planning and management. Through the Federal assistance provisions, funds are provided to assist local areas in addressing in a sophisticated manner difficult urban/industrial and nonpoint source water quality problems that cannot be solved through the application of statutory base level effluent limitations.

Under the interim regulations and in accordance with sections 208(f)(1) of the Act, funds will be provided to designated local planning agencies for a period of up to 24 months to develop an initial plan for a designated area with concurrent further development of the planning process. For obligations made during FY 1974 and FY 1975, the Federal share shall be 100 percent of the eligible costs of the project.

Planning grants under section 208 of the Act will not be awarded to States for 208 planning in nondesignated areas. Funds provided under section 106 of the Act, however, may be used for this purpose.

The regulations also provide for the involvement of the States in the grant application process and in the development and review of the 208 plan. It was felt that to have a useful areawide waste treatment management plan, the local planning effort should be closely coordinated with the overall State planning effort.

In addition, the interim regulations require that the planning agency make provisions for an Areawide Planning Advisory Committee which must include representatives of the State and public and may include representatives of the U.S. Departments of Agriculture, Army and the Interior and such other Federal and local agencies as may be appropriate.

With respect to the facilities planning conducted during the development of an areawide waste treatment management plan, the regulations provide that generally such planning for construction anticipated within the five year period following approval of the plan must be accomplished within the scope of the 208 planning process and within the scope of the 208 grant assistance provided that detailed engineering shall be required only to the extent deemed necessary by the EPA Regional Administrator. However, where facilities planning has been initiated and is substantially underway at the time of award of a 208 grant, such planning may be continued and incorporated in the areawide waste treatment management planning process and plan. Where the Regional Administrator determines that Step 1 construction grant assistance should be utilized for facilities planning activities during the 208 planning process he may award Step 1 grant assistance for such facilities planning, provided that such planning does not duplicate any work funded by the 208 grant. The designated planning agency must be afforded opportunity to comment prior to award of any Step 2 or Step 3 construction grant assistance within the designated 208 area during the 208 planning process. Upon approval of the 208 plan, no construction grant assistance may be awarded within the 208 area until the project has been brought into conformity with such plan.

Effective date: May 13, 1974.

JOHN QUARLES,
Acting Administrator.

MAY 7, 1974.

Subpart F—Grants to Designated Areawide Waste Treatment Management Planning Agencies; Grant Applications; Grants; Plan Content and Approval

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AUTHORITY: Sec. 208, Federal Water Pollution Control Act Amendments of 1972.

Subpart F—Grants to Designated Areawide Waste Treatment Management Planning Agencies; Grant Applications; Grants; Plan Content and Approval

§ 35.1050 Purpose.

The purpose of section 208 of the Federal Water Pollution Control Act Amendments of 1972 is to encourage and facilitate the development and implementation of areawide waste treatment management plans at the local level. This subpart supplements the EPA general grant regulations and procedures (Part 30 of this chapter) and establishes and codifies policies and procedures for grants to an approved planning agency, upon approval of applications, for the development and operation of a continuing planning process required for the development of an approvable areawide waste treatment management plan.

§ 35.1051 Authority.

These provisions for grants to support the development and operation of an areawide waste treatment management planning process are issued under section

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208 of the Federal Water Pollution Control Act Amendments of 1972.

§ 35.1052 Allocations and allotments.

(a) Upon approval of a planning area and agency designation pursuant to Part 126 of this chapter, there will be reserved, for subsequent issuance to the Regional Administrator, an amount of contract authority estimated to cover the reasonable cost of the continuing planning process for a designated area.

(b) Upon completion of review and negotiation of a grant application for the continuing planning process for a designated area, and at such time as the Regional Administrator is prepared to make a grant award, the Regional Administrator shall request an Advice of Allowance authorizing the obligation of contract authority to cover the amount of the negotiated grant agreement. In no case will a grant agreement be executed before an Advice of Allowance is issued.

§ 35.1053 Eligibility.

An applicant agency must be the agency designated by the Governor or appropriate local officials in conformance with §§ 126.11 or 126.16 of this chapter and approved by the Administrator as the official areawide waste treatment management planning agency for the area and must agree to develop a plan and a continuing planning process meeting the requirements of this subpart for the entire designated area.

§ 35.1054 Applications.

§ 35.1054-1 Preapplication Requirements.

Any agency applying for an areawide waste treatment management planning grant shall:

(a) Comply with all applicable requirements of Office of Management and Budget (OMB) Circular No A-95.

(b) In the case of an area designated by the Governor(s), the application and supporting data shall be submitted to the State agency(ies) designated by the Governor(s) as having review jurisdiction over the planning area. In addition, in such cases in interstate planning areas, the applicant shall submit the application to the Governor of the State wherein the greatest portion of the population within the planning area resides.

(c) In the case of an area designated by the chief elected officials, the application shall be submitted directly to the appropriate Regional Administrator of EPA and the appropriate Governor(s) shall be notified of the submission.

§ 35.1054-2 Application Requirement.

Applications to EPA shall be made in triplicate on such forms as the Administrator may prescribe and shall include the following substantiating data:

(a) In the case of an area designated by the Governor(s), a statement of certification or refusal of certification submitted by the chief official(s) of the reviewing agency(ies) designated by the Governor(s) of the State(s) wherein the area is located. Each certification or refusal thereof, shall include a statement that the State has reviewed the application and finds: (1) That the proposed work complies or does not comply with all State requirements, including any applicable 303(e) plan(s) prepared under 40 CFR Part 131; (2) that the proposed planning work program is or is not adequate and necessary to accomplish the development of a plan under Section 208; (3) that, insofar as is known, the planning will or will not duplicate any work which has been done or is being done to meet the facilities planning requirements of §§ 35.917-35.917-9; and (4) that the State either certifies or does not certify that the grant application should be approved by EPA.

(b) Evidence that all requirements of OMB Circular No. A-95 have been met.

(c) A statement by the applicant that the proposed activity is consistent with and will be in coordination with other environmental plans (which include land use plans) and has been coordinated with related planning and development that is being done under other Federal assistance programs and any State and local programs which affect the designated area.

(d) A statement by the applicant that provisions have been, or will be, made for an Areawide Planning Advisory Committee which must include representatives of the State and public and may include representatives of the U.S. Departments of Agriculture, Army and the Interior and such other Federal and local agencies as may be appropriate in the opinion of EPA, the State(s) and the applicant agency.

(e) A statement by the applicant that the planning process will become financially self-sustaining and provide for annual update of the plan once the initial plan is developed and approved.

(f) A work plan which contains the following:

(1) Description of the objectives and scope of the waste treatment management planning process;

(2) Description of all work performed to date which will be used in the plan development;

(3) Description of the proposed planning process which will be utilized to (i) identify and evaluate feasible measures to control point and nonpoint pollution sources, which measures may take into account all source location and review measures necessary to meet State implementation plan requirements in the area, (ii) select an integrated areawide plan to control these sources, and (iii) establish an areawide management program (including financing) for plan implementation;

(4) Description of any necessary action in the planning to be taken by agencies other than the applicant and procedures to be used in coordination of such activities. (Documentation of the acceptance by the affected responsible agency of such required work or action shall be included and presented with the work plan.);

(5) Detailed schedule showing required interrelationships of work to be accomplished and anticipated dates of completion;

(6) Detailed cost and resource budget, including work to be done under contract or by interagency agreement;

(7) Proposed disbursement schedule with specific progress milestones related to disbursements;

(8) Description of how compatibility with applicable plans prepared or in preparation under sections 209 and 303 (e) will be attained; and

(9) Description of the procedures to be followed in assuring adequate public participation during the plan development, review and adoption in accordance with Part 105 of this chapter.

(g) A statement that the planning process will develop systems for prevention of degradation of surface and ground water quality in the area in accordance with the requirements of the Act and with the applicable Federal, State water quality standards.

§ 35.1055 Revision or amendment of application.

If, in the judgment of the applicant or the EPA Regional Administrator, substantial changes have occurred which warrant revision or amendment, the application shall be revised or amended and submitted for review in the same manner as specified for the original application.

§ 35.1056 Review, certification and approval of grant application.

§ 35.1056-1 State review and certification of applications from areas designated by the Governor(s).

(a) *Intrastate planning areas.* The State reviewing agency designated by the Governor shall, within 45 days after receipt of the application, review the application and either certify or refuse to certify the application and proposed work program as set forth in § 35.1054-2(a). Upon certification or refusal thereof, the reviewing agency will either, at the applicant's direction, return the application to the applicant for forwarding of two copies to the appropriate EPA Regional Administrator, together with all certifications, or forward two copies of the application and certifications or refusals thereof to the appropriate EPA Regional Administrator. If the application is not certified, the reviewing agency shall notify both the appropriate EPA Regional Administrator and the applicant as to the specific reasons for noncertification and specify the changes which are needed for State certification of the application.

(b) *Interstate planning areas.* The applicant shall submit its application to the reviewing agency designated by the Governor of the State wherein the greatest portion of the population resides. This reviewing agency shall, within 15 days of receipt of the application, forward copies of the application to the agency designated by the Governor(s) of each other State having jurisdiction within the planning area, and shall serve as coordinator for the bi- or multi-State re-

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view. Each State shall review the application and within 45 days provide the State coordinating the review with its certification or refusal thereof as set forth in § 35.1054-2(a). The coordinating State shall within 15 days forward two copies of the application, supporting documents and all State certifications or refusals thereof to the applicant for forwarding to the appropriate EPA Regional Administrator. In the event that one or more States does not certify the application, each State refusing certification shall specify its reasons in writing and advise the applicant through the coordinating State, of the specific changes needed to gain its certification. The coordinating State, in turn, shall forward such notice(s) of non-certification to the applicant and the appropriate EPA Regional Administrator. At the request of all of the States involved and with the approval of the appropriate Regional Administrator(s), an existing, recognized, interstate agency may act in the coordinating role on behalf of those States.

§ 35.1036–2 State comments on applications from areas designated by local officials.

In all cases concerning applications in areas designated by locally elected officials the State shall review and comment upon the application as provided for by OMB Circular A-95.

§ 35.1036–3 EPA review and approval.

(a) EPA shall not accept for review for the purpose of making a grant any incomplete application or an application unaccompanied by all State certifications or refusals thereof which have been submitted.

(b) The Regional Administrator shall review the application and supporting documentation to determine its compliance with the applicable requirements of the Act and this subpart, the suitability of the proposed programs to successfully meet the required outputs of section 208 of the Act and this subpart and the costs of the proposed program.

(c) Generally within 45 days after receiving the application the Regional Administrator shall:

(1) Award a grant to the applicant in the amount that he finds meets the requirements of § 35.1057.

(2) Notify the applicant that the grant application is deficient in one or more respects and specify in which ways the application must be modified to receive EPA approval. Copies of such notifications will be forwarded to all concerned States at the time the applicant is notified of EPA action.

§ 35.1037 Amount of grant.

For grants awarded during the fiscal years ending on June 30, 1974, and June 30, 1975, the rate of Federal assistance furnished to a grantee shall be 100 per centum of the EPA approved eligible and reasonable costs of developing or modifying an initial areawide waste treatment management plan meeting the requirements of this subpart and operating an approved planning process.

§ 35.1038 Period of grant.

Federal assistance shall be for a budget period beginning the date of execution of the grant agreement and ending the date which the plan is approved by the appropriate Regional Administrator or within 24 months, whichever period is less.

§ 35.1039 Payments.

§ 35.1039–1 Establishment of initial fund.

Payment will be made in advance to the grantee by the establishment and at least quarterly replenishment of a fund that shall be based on a negotiated amount set forth in the grant agreement and which should not exceed 10 percent of the grant amount, unless a larger initial percentage is necessary for the accomplishment of the grant objectives.

§ 35.1039–2 Request for replenishment of funds.

Requests for replenishment of funds shall be made by the grantee on such form as prescribed by the Administrator. Each request for replenishment of funds shall include a statement on the status of the project related to the approved milestones set forth in the grant application. If the project is behind schedule, the statement should identify the specific tasks that have been delayed and give the reasons for the delay.

§ 35.1039–3 Federal retention of grant funds.

In accordance with the provisions of § 30.602–1 of this chapter, an amount not to exceed 10 percent of the grant award amount may be withheld for noncompliance with a program objective, grant condition or reporting requirement.

§ 35.1040 Reports.

Within 30 days following the end of each 6 month period after the effective date of the grant, the grantee agency shall prepare and submit for review by EPA a semi-annual report of progress and expenditures as compared to the scheduling of approved milestones in the work plan. Lack of scheduled progress and other problems shall be fully explained.

§ 35.1041 Suspension and termination of grant.

In accordance with the provisions of §§ 30.902 and 30.903 of this Chapter, the Regional Administrator may suspend or terminate any grant awarded pursuant to this Subpart.

§ 35.1042 Allowable costs.

In general, eligible and ineligible costs shall be determined in accordance with § 30.701 of this Chapter and by demonstration that the type and degree of work is necessary for successful completion of the project, and that the costs are reasonable with respect to the product or service to be obtained. While costs incurred as a result of following an approved work program would generally be allowable, provided that they are not prohibited elsewhere by Federal, State or local law, regulations or rule, the costs incurred by activity related to the following shall be ineligible:

(a) All costs incurred in development of a grant application for an areawide waste treatment management planning grant.

(b) All costs incurred in sewer evaluation surveys as required under § 35.927-2.

(c) All costs incurred in detailed sewer system mapping and surveys therefor.

(d) All costs related to sewage collection systems at less than the trunk line level.

(e) All costs related to obtaining or providing information for sewer systems other than the costs of determining the following items in sufficient detail to make informed judgments on the cost effectiveness of available alternatives: tributary or service areas, routes, sizes, capacities and flows, critical control elevations required to show ability to serve tributary areas, lengths, staging, major impediments to construction, and costs of construction and operation. Data concerning lift stations shall be limited to location, size, energy requirements and capital and operating costs. (Costs of gathering and analyzing information required for economic, environmental and social evaluations shall be eligible.)

(f) All costs related to obtaining or providing treatment works other than the costs of determining the following items in sufficient detail to make informed judgments on the cost effectiveness of available alternatives: Location, site plot plan which shows adequacy of the site including provision for expansion, process flow diagram, identification of unit process, type, number and size of major units, capacities and flows, anticipated effect of treatment, staging and capital and operating costs and energy requirements. (Costs of gathering and analyzing information required for economic, environmental and social evaluations shall be eligible.)

(g) All costs of special studies for the specific benefit of individual, industrial or commercial establishments.

(h) All costs of activities which are primarily of a research nature.

§ 35.1043 Submission of the plan.

§ 35.1043–1 Plans for intrastate areas.

No later than two years after the planning process is in operation, as evidenced by award of a grant, three copies of a plan and local governmental recommendations thereon, in accordance with § 35.1044–1, shall be submitted to the Regional Administrator through the State reviewing agency along with certification of approval by the Governor of the State wherein the area is located. The certification document shall include certification that the State has reviewed the plan and:

(a) Has found the plan to be in conformance with the provisions of the State basin plan(s) and the State Program prepared under section 106, and that the plan will be accepted as a detailed portion of the State plans when approved by EPA;

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(b) Has found the plan to be internally consistent with the water quality control needs of the area;

(c) Has found the plan consistent with all State and local legislation, regulations or other requirements or plans regarding land use and protection of the environment;

(d) Has found that the plan provides adequate basis for selection and designation of management agencies to be designated under section 208(c) of the Act; and

(e) Has approved the plan. If disapproval is necessary, that is if no certification of approval can be issued by the Governor due to failure of the grantee to comply with one or more of these provisions, the Governor shall notify the Regional Administrator and the grantee in writing that the plan is deficient, and specify in which ways the plan must be modified to receive State certification of approval.

§ 35.1063–2 Plans for interstate areas.

No later than two years after the planning process is in operation, three copies of the plan and local governmental recommendations thereon and one additional copy of the plan and recommendations for each concerned State shall be submitted to the reviewing agency designated by the Governor of the State wherein the greatest portion of population within the planning area resides. That agency shall act as the coordinating agency and shall forward one copy of the plan to the reviewing agency designated by the Governor of each other State wherein a portion of the planning area is located. Each State shall review the plan and shall, on behalf of that State, furnish the coordinating agency with certifications as set forth in § 35.1063–1. The coordinating State agency shall forward copies of each certification to the grantee agency and shall, at that time, forward two copies of the certifications and the plan and local governmental recommendations thereon to the appropriate EPA Regional Administrator. At the request of all the States involved, and with the approval of the Regional Administrators, an existing, recognized, interstate agency may act in the coordinating role on behalf of those States.

§ 35.1064 Areawide waste treatment management planning: Content and outputs.

The purpose of areawide planning activities is the development of a coordinated, viable, management system capable of organizing, directing, implementing and maintaining an effective program of pollution abatement and preservation of existing high quality water in areas having substantial water quality control problems.

§ 35.1064–1 Content of areawide waste treatment management plan.

Each agency receiving assistance under a grant for areawide waste treatment management planning shall develop and submit to the Regional Administrator an areawide waste treatment management plan consistent with this Subpart and the applicable requirements of §§ 35.917 to 35.917–9. The plan shall include:

(a) An identification of the anticipated municipal and industrial treatment works construction necessary to meet the requirements of Title II of the Act within the designated planning area over a twenty year period;

(b) Those portions of facilities planning in compliance with § 35.917–1(a)–(1) the costs of which are allowable under § 35.1062 for those facilities for which Step 2 or Step 3 grant assistance is expected to be awarded during the five-year period following the section 208 plan approval.

(c) The identification of required urban storm water runoff control systems;

(d) The establishment of construction priorities for treatment works for the five-year period following the year of plan approval and a proposed schedule of completion of major treatment works over the twenty-year period following submission of the plan;

(e) The establishment of a regulatory program to:

(1) Provide that waste treatment management shall be on an areawide basis and provide identification and evaluation of and control or treatment for all point and non-point sources of pollution, including inplace or accumulated pollution sources, as shall be required under guidelines published by the Administrator pursuant to sections 208 and 304(e) of the Act. (Special regulatory consideration, including land use controls, is required for sources further specified under paragraphs (g) through (l) of this section);

(2) Regulate the location, modification, and construction of any facilities within such area which may result in any discharge in such area including, as appropriate, regulation of any future increase in waste loads and sources; and

(3) Assure that any industrial or commercial wastes discharged into any publicly owned treatment works in such area must meet applicable pretreatment requirements established in the plan.

(f) The identification of those agencies necessary to (1) construct, operate, and maintain all facilities required by the plan, and (2) otherwise carry out the plan;

(g) A process to (1) identify, if appropriate, agriculturally and silviculturally related non-point sources of pollution, including runoff from manure disposal areas, and from land used for livestock and crop production, and (2) set forth procedures and methods (including land use requirements) to control to the extent feasible such sources;

(h) A process to (1) identify, if appropriate, mine-related sources of pollution including new, current, and abandoned surface and underground mine runoff, and (2) set forth procedures and methods (including land use requirements) to control to the extent feasible such sources;

(i) A process to (1) identify construction activity related sources of pollution and (2) set forth procedures and methods (including land use requirements) to control to the extent feasible such sources;

(j) A process to (1) identify, if appropriate, salt water intrusion into rivers, lakes and estuaries resulting from reduction of fresh water flow from any cause, including irrigation, obstruction, ground water extraction, and diversion, and (2) set forth procedures and methods to control such intrusion to the extent feasible where such procedures and methods are otherwise a part of the waste treatment management plan;

(k) A process to control the disposition of all residual waste generated in such area or imported into such area which could affect either surface or ground water quality;

(l) A process to control the disposal of pollutants on land or in subsurface excavations within such area to protect ground and surface water quality;

(m) The identification of all major alternative measures, including enforcement acitvities, financing, land use and other development controls and regulatory actions, administrative and management authorities and practices necessary to carry out each of the alternatives and selection of the recommended system;

(n) The period of time necessary to carry out the plan and major alternatives, the costs of carrying out the plan and major alternatives within such time, and economic, social, and environmental impacts of carrying out the plan and major alternatives within such time;

(o) Certification of the consistency of the plan with plans prepared or in preparation under sections 209 and 303 of the Act. (Any 201 plan developed in the area or any application for a Step 1 grant for such plan received prior to the approval of the 208 plan shall require review and comments by the designated 208 agency which shall be transmitted to the State agency processing the Title II grant applications. After the section 208 plan has been approved, all 201 plans for the area that may previously have been developed shall be brought into conformance with the 208 plan.)

(p) Certification and description of public participation, in the planning process and adoption of the plan, in accordance with Part 105 of this Chapter, and

(q) Recommendations by governing bodies of local governments having responsibility for or which would be directly affected by, implementation of the plan and having jurisdiction in the planning area as to State certification and EPA approval of the plan. In the event that a local unit of government fails to provide a recommendation within 30 days of receiving such a request from the planning agency, it shall be considered that the plan has been favorably recommended by that unit of local government.

§ 35.1064–2 Revisions of plans.

If, in the judgment of the Regional Administrator, State Governor(s) or applicant, substantial changes have occurred which warrant revision or amendment of the approved plan, the plan shall be revised or amended and submitted for review in the same manner specified in this Subpart for the original plan.

§ 35.1065 Authority of States for nonpoint source planning in designated areas.

Whenever the Governor of any State determines (and notifies the Regional Administrator) that consistency with a Statewide regulatory program under section 303 so requires, the requirements of § 35.1064–1(g) through (l) shall be developed and submitted by the Governor to the Regional Administrator for application to all regions within such State. All requirements of such State programs shall be incorporated into each affected areawide plan. The plan shall set forth such additional local actions and programs as may be necessary for implementation of the plan developed by the State.

§ 35.1066 Designation of management agencies.

§ 35.1066–1 Intrastate planning areas.

The Governor of the State in consultation with the designated planning agency, affected local governments and following the public partication requirements set forth under Part 105 of this chapter, at the time the plan is submitted to the Administrator shall designate one or more waste treatment management agencies (which may be an existing or newly created local, regional or State agency or political subdivision) for the designated area. Such agency or agencies shall, individually or in aggregate, have adequate authority to meet the requirements to carry out the provisions of section 208(c)(2) of the Act.

§ 35.1066–2 Interstate planning areas.

The Governors of the States wherein the planning area is located shall either mutually designate one or more waste treatment management agencies as set forth in § 35.1066–1 or shall; after agreement among the Governors and the appropriate EPA Regional Administrators, individually designate one or more waste treatment management agencies within each State pursuant to the requirements of § 35.1066–1.

§ 35.1067 EPA review of plan and designation of management agencies.

§ 35.1067–1 Submittal of certified plan and designation of proposed management agency(ies).

The Regional Administrator shall not receive for the purpose of review and approval either proposed designations of management agency(ies) in the absence of a plan certified by the appropriate Governor(s) or a plan certified by the appropriate Governor(s) in the absence of proposed designations of management agency(ies).

§ 35.1067–2 Dual approval required.

The appropriate Regional Administrator shall neither approve a certified plan unless concurrently approving all designated management agencies, nor approve the designation of management agencies unless concurrently approving a certified plan.

§ 35.1067–3 Review and approval of plan.

The Regional Administrator's approval of the plan will be based upon the State(s) certification of approval and EPA's review of the submission for conformance with provisions of section 201 and 208 of the Act and the requirements of this Part and other applicable regulations. Within 120 days after receiving the submittal, the Regional Administrator shall:

(a) Notify the State(s) and the grantee of approval of the plan; or

(b) Notify the State(s) and the grantee that the submittal is deficient in one or more respects and specify the ways in which the submittal must be modified to receive EPA approval; or

(c) Notify the grantee and the State(s) that the designation of waste treatment management agencies cannot be approved, thereby delaying further consideration of the plan until such time as deficiencies in such designations are rectified.

§ 35.1067–4 Review and approval of waste treatment management agencies.

The Regional Administrator's approval will be based upon the requirements set forth in section 208(c)(2) of the Act. Within 120 days after receiving the submittal of the designations the Regional Administrator shall:

(a) Notify the Governor(s) and grantee of approval of the designations; or

(b) Notify the Governor(s) and grantee that the designation submittal is deficient in one or more respects and specify the ways in which the submittal must be modified to receive EPA approval; or

(c) Notify the Governor(s) and grantee that the plan cannot be approved until modified, thereby delaying further consideration of the designations until such time deficiencies in the plan are corrected.

§ 35.1068 Disputes.

Final determinations by the Regional Administrator concerning applicant ineligibility and final determinations by the Regional Administrator concerning disputes arising under a grant pursuant to this Subpart shall be final and conclusive unless appealed by the applicant or grantee within 30 days from the date of receipt of such final determination in accordance with the "Disputes" article of the General Grant Conditions (Article 7 of Appendix A to this Subchapter).

§ 35.1070 Annual Update of Plan. [Reserved]

§ 35.1080 Grants for Update of Plan. [Reserved]

[FR Doc 74-10977 Filed 5-10-74;8:45 am]

that the Environmental Protection Agency was proposing policies and procedures for the designation of areawide waste treatment management pursuant to section 208(a) of the Federal Water Pollution Control Act Amendments of 1972 (86 Stat. 816 (33 U.S.C. 1251, 1288 (a)(1))).

The regulations are designed to serve as guides for the Governors of the States and chief elected officials of general purpose local government in identifying areas which, as a result of urban-industrial concentrations or other factors, have substantial water quality control problems which require an areawide approach in planning for and implementing corrective action, and in designating agencies capable of developing waste treatment management plans for such areas.

In view of the intent of the legislation, the Environmental Protection Agency believes that an areawide water quality management program should be carried out to gain the following objectives:

Provide cost effective, point source treatment and control for areas of urban-industrial concentrations having substantial water quality control problems.

Provide for control of nonpoint sources in urban-industrial and other areas where such controls are required including prevention of water quality problems in the future.

Provide for coordinated waste treatment management in such areas.

Written comments on the proposed rulemaking were invited and received from interested parties. A number of verbal comments also were received. The Environmental Protection Agency has carefully considered all submitted comments. All written comments are on file with the Agency. Certain of these comments have been adopted or substantially satisfied by editorial change, deletions from, or additions to the regulations. These changes are discussed below.

(a) A substantial water quality control problem was further defined to indicate that the problem exists where water quality has been degraded to the extent that desired uses are impaired or precluded. The identification of water quality segments under 40 CFR Part 130 or groundwater pollution problems are measures of the extent of the problem.

(b) The definition of local units of government that may respond to indicate intent to join together in the planning process now includes both general purpose and other appropriate units of local government. (See § 126.10(c).)

(c) The criteria for designation of a planning agency now includes the consideration of an existing agency's capability for implementing the plan or having the plan implemented. (See § 126.11(b).).

(d) The requirements for the submission of information on 208 planning areas and agencies have been revised to require a statement relating the boundaries of the area to the SMSA but not to require conformance to SMSA boundaries. (See § 126.15.)

(e) The Governor's right to nondesignate in intrastate areas only is clarified. (See § 126.16.)

(f) Where 208 planning area and agency designations are made by local public officials, the Governor's views on these designations may be made to the Administrator.

(g) The Administrator's approval or disapproval actions of areas and agencies will be published in the FEDERAL REGISTER. (See § 126.17.)

(h) The requirements for public participation as set forth in 40 CFR, Part 105 shall be followed.

Effective date.—September 14, 1973.

Because of the importance of promptly making known to States, local units of government and other interests the contents of these regulations in order that area and agency designations may be made under section 208(a) of the Act, the Administrator finds good cause to declare the regulations effective on September 14, 1973.

Dated September 4, 1973.

JOHN QUARLES,
Acting Administrator.

PART 126—AREAWIDE WASTE TREATMENT MANAGEMENT PLANNING AREAS AND RESPONSIBLE PLANNING AGENCIES

On May 38, 1973, notice was published in the FEDERAL REGISTER, 38 FR 14230,

Subpart A—Scope and Purpose; Definitions

Sec.
126.1 Scope and Purpose.
126.2 Definitions.

Subpart B—Procedures for Designation of 208 Planning Areas and Agencies Responsible for Planning

126.10 Criteria for determination of 208 planning areas.
126.11 Criteria for designation of agencies responsible for planning.
126.12 Procedure for designation of intrastate 208 planning areas and agencies responsible for planning.
126.13 Procedure for designation of interstate 208 planning areas and agencies responsible for planning.
126.14 Nondesignation of 208 planning areas and/or agencies by Governor(s).
126.15 Submissions of 208 planning areas and agencies responsible for planning.
126.16 Procedure for designation of 208 planning areas and agencies responsible for planning by the chief elected officials of general purpose local government.
126.17 Review of submissions.
126.18 Revisions.

Subpart C—State Planning in Nondesignated Areas

126.20 Determination of planning agencies in nondesignated areas.

Subpart D—Public Participation

126.30 Public participation requirements in designation of 208 planning areas and designation of agencies responsible for planning.

Subpart E—Assistance to Designated Agencies

126.40 Determination of eligibility.

AUTHORITY.—Sec. 208 and 501, 86 Stat., 816, (33 U.S.C. 1281, 1288(a)(1)).

Subpart A—Scope and Purpose; Definitions

§ 126.1 Scope and purpose.

This part establishes regulations specifying procedural and other elements and criteria for the use of State Governors and chief elected officials of general purpose local government in the designation of the areas, including their

boundaries, requiring areawide planning for waste treatment management pursuant to section 208 of the Act and designation of agencies responsible for such planning. This part provides that each State should comply with the requirements of this Part not later than 180 days after the date of publication of this part.

§ 126.2 Definitions.

As used in this part, the following terms shall have the meanings set forth below:

(a) The term "Act" means the Federal Water Pollution Control Act Amendments of 1972 (86 Stat. 816 (33 U.S.C. 1251, 1288(a)(1)).

(b) The term "EPA" means the U.S. Environmental Protection Agency.

(c) The term "Administrator" means the Administrator of the U.S. Environmental Protection Agency.

(d) The term "208 planning areas" means the area designated under section 208(a) (2), (3), or (4) of the Act.

Subpart B—Procedures for Designation of 208 Planning Areas and Agencies Responsible for Planning

§ 126.10 Criteria for determination of 208 planning areas.

The following criteria will be utilized in designation of 208 planning areas.

(a) A Preference will be given by the Administrator, in approving designation, to areas of urban-industrial concentrations, because of the Act's legislative history and in view of the institutional nature of urban-industrial concentrations. For this purpose an urban-industrial concentration is that portion of a standard metropolitan statistical area (SMSA—as defined by the Office of Management and Budget), or those portions of SMSA's, having substantial concentrations of population and manufacturing production or other factors which result in substantial water quality control problems. The entire SMSA(s) may be designated as the planning area. Such areas may be increased to include areas outside the SMSA(s) which have substantial water quality control problems resu' ng from concentrations of population and manufacturing activity or other factors and which are contiguous to the SMSA(s);

(b) The area must have a substantial water quality control problem. A substantial water quality control problem shall be considered to exist only where the complexity and nature of the water quality control problem requires an areawide waste treatment management plan, and where water quality has been degraded to the extent that desired uses are impaired or precluded. A measure of the extent of the problem includes those areas where:

(1) A substantial portion of the major receiving waters available for waste discharge from the area has been classified by the State as a water quality segment, after adequate analysis demonstrating this classification, under the requirements of Part 130 of this chapter, or;

(2) A substantial and extensive groundwater pollution problem exists; or where the dependence of an area on groundwater makes it essential that its ground water resource be given the necessary protection from pollution it requires.

(c) The affected general purpose or other appropriate units of local government within the boundaries of the 208 planning area must:

(1) Have in operation a coordinated waste treatment management system, or

(2) Show their intent, through formally adopted resolutions, to join together to develop and implement a plan which will result in a coordinated waste treatment management system for the area.

(d) Affected units of local government must have legal authority to enter into agreements for coordinated wastewater management in compliance with section 208 of the Act.

§ 126.11 Criteria for designation of agencies responsible for planning.

(a) The agency shall be a representative organization whose membership shall include but need not be limited to elected officials of local governments, or their designees, having jurisdiction in the designated planning area. The agency shall establish procedures for plan adoption and resolution of major issues. The agency shall have waste treatment planning jurisdiction in the entire designated area. Existing, capable regional agencies may be designated consistent with the policies in Title IV of the Intergovernmental Cooperation Act of 1968, as implemented by Part IV of OMB Circular A-95. A single qualified agency may be designated as being responsible for planning in more than one planning area.

(b) In the selection of the areawide planning agency, the Governor(s) must consider that such agency, pursuant to section 208(b)(1) of the Act, shall have the water quality management planning process fully underway no later than 1 year after its designation. Further, the agency must have the capability to complete, and shall complete, the initial water quality management plan no later than 2 years after the planning process is in operation or such earlier date as the State may require for incorporation into State plans required under section 303 (e) of the Act. The Governor or, in interstate cases, the Governors, shall in the designation process, consider:

(1) The general and specific legal authorities and prohibitions applicable to the agency with regard to water quality management planning, including but not limited to coordination with or participation in comprehensive planning, land use planning, water sewer planning, coastal zone planning, and other related planning and development activities and controls.

(2) The relationship of the agency (both formal and informal) with planning agencies of different levels of government including but not limited to Federal, State, interstate and Federal-State agencies as well as local government agencies.

(3) The relationship of the agency (both formal and informal) with management and regulatory agencies such as those that possess zoning and subdivision controls, and those that construct and operate wastewater facilities.

(4) Where an existing agency is designated:

(i) The agency's past record in water quality management planning with special regard to plan quality, technical, fiscal, political, and economic feasibility, and environmental soundness.

(ii) The agency's expertise, either in-house or readily available, with particular regard to water quality and comprehensive planning.

(iii) The agency's fiscal, manpower, data, and other resources in light of existing and proposed commitments in other areas.

(iv) The agency's capability for having the plan implemented, or of implementing all or portions of the plan itself.

§ 126.12 Procedure for designation of intrastate 208 planning areas and agencies responsible for planning.

The Governor of the State shall, after proper consultation with appropriate elected and other officials of local governments having jurisdiction in such area, and such State agencies as he may desire, and having complied with the requirements for public participation as set forth in § 126.30 of this regulation, designate the 208 planning area, including its boundaries, and a single representative agency to be responsible for the planning. In designating such planning areas and agencies, the Governor shall consider the criteria set forth in §§ 126.10 and 126.11.

§ 126.13 Procedure for designation of interstate 208 planning areas and agencies responsible for planning.

The Governors of the States shall, in interstate areas, after consultation with appropriate elected and other officials of all local governments having jurisdiction and with such State and interstate agencies as they may desire, or may be required by State legislation, and having complied with the requirements for public participation as set forth in § 126.30, mutually designate each 208 planning area including its boundaries, and for each area a single representative agency to be responsible for the planning. In designating such planning areas and agencies, the Governors shall consider the criteria set forth in §§ 126.10 and 126.11.

§ 126.14 Nondesignation of 208 planning areas and/or agencies by Governor(s).

In certain intrastate areas the Governor may determine not to designate a 208 planning area even though the criteria set forth in §§ 126.10 and 126.11 may be met. Specific nondesignation of a 208 planning area does not preclude later designation by the Governor.

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NOTE.—Attention is called to the fact that the Governor has three specific choices of action. He may designate, remain silent, or may nondesignate specific areas. If the Governor remains silent, the chief elected officials of general purpose local government in the area may make such designations if they so choose. Upon approval by the Administrator, designation by local elected officials is binding upon the Governor.

§ 126.15 Submissions of 208 planning areas and agencies responsible for planning.

Within 180 days after issuance of this Part the Governor shall notify the Administrator of his actions regarding designation of 208 planning areas and agencies responsible for the planning. This notification shall be in writing and shall include:

(a) Identification of each area within the State determined to be eligible by the Governor under § 126.10.

(b) A list of all areas among those eligible which the Governor wishes to nondesignate at this time.

(c) A list of all areas among those eligible which the Governor wishes to designate at this time. For each area designated the following information shall be provided:

(1) An exact description of the boundaries of each area including a statement relating to boundaries of any area to the boundaries of the SMSA(s) contained within or contiguous to the area, or in those areas not within a SMSA a statement relating the boundaries of the area to the nearest SMSA, and a statement indicating:

(i) Population of the area,

(ii) Nature of the concentration and distribution of industrial activity in the area,

(iii) Degree to which it is anticipated that the area could improve its ability to control water quality problems were it designated as a planning 208 area, and

(iv) Factors responsible for designation.

(2) Identification and supporting analysis of each water quality segment included in each area, as developed in accordance with Part 130 of this chapter.

(3) For each area a copy of the charter of existing regional waste treatment management agencies or formally adopted resolutions which demonstrate that the general purpose units of local government involved will join together in the planning process to develop and implement a plan which will result in a coordinated waste treatment management system for the area. The resolutions shall also state that all proposals for grants for construction of a publicly owned treatment works will be consistent with the approved plan and will be made only by the designated management agency.

(4) For each area the name, address, and official contact for the agency designated to carry out the planning.

(5) A statement on the factors considered in agency designation as described in § 126.11.

(6) A summary of public participation in accordance with the requirements set forth in § 126.30.

§ 126.16 Procedure for designation of 208 planning areas and agencies responsible for planning by the chief elected officials of general purpose local government.

(a) In the case of any intrastate area, if the Governor of an affected area does not act to designate or nondesignate it as a 208 planning area, or in an interstate area if the Governors of an affected area do not act to designate it as a 208 planning area, the chief elected officials of general purpose local governments having jurisdiction in the area, after meeting the requirements for public participation as set forth in § 126.30, may designate such planning area, and a single representative agency responsible for the planning, which shall be based upon the criteria set forth in §§ 126.10 and 126.11.

(b) After making such designation, the chief local officials shall: (1) Notify the Governor(s) of the State(s) affected by their action, and (2) submit their designation to the Administrator in accordance with the requirements set forth in § 126.15. When the Governor receives notification he may submit his views regarding the designation to the Administrator.

§ 126.17 Review of submissions.

(a) The Administrator shall review each submission of designated 208 planning areas and agencies to determine compliance with the criteria set forth in this Part.

(b) Upon completion of his review, the Administrator shall publish notice in the FEDERAL REGISTER and shall notify in writing the appropriate Governor(s) or local officials making such designations of his approval or disapproval of each designation. In the event that the Administrator disapproves any of the designations, he shall specify his reasons with his notice of disapproval.

§ 126.18 Revisions.

(a) The appropriate Governor(s) or local officials (where the original designation was not made by the Governor(s)) may from time to time propose in writing a revision of the boundaries of any 208 planning area previously approved. The Administrator shall approve or disapprove such proposed revision pursuant to § 126.17. The effective date of designation is the date of the Administrator's approval.

(b) The Governor(s) may also designate from time to time previously nondesignated planning areas and agencies. In such cases the designation, submission, and approval shall follow the requirements set forth in this Part.

Subpart C—State Planning in Nondesignated Areas

§ 126.20 Determination of planning agencies in nondesignated areas.

(a) The State shall act as the planning agency for all areas not designated under §§ 126.12, 126.13, or 126.16. Where the Governor determines, pursuant to section 208(b)(4) of the Act, that the requirements of section 208(b)(2) (F through K) should be applied on a statewide basis, the State may apply the planning process established pursuant to section 303 of the Act as the process for carrying out the requirements of the sections. Funds which may be available under section 106 of the Act may be utilized to conduct planning pursuant to this section.

(b) Assumption by the State of the planning responsibilities in these areas does not foreclose the establishment of other planning processes at the substate level.

Subpart D—Public Participation

§ 126.30 Public participation requirements in designation of 208 planning areas and designation of agencies responsible for planning.

(a) The guidelines for public participation as set forth in Part 105 of this chapter implementing section 101(e) of the Act shall be followed.

(b) The Governor(s) shall consult with appropriate elected and other local officials prior to designating planning areas and agencies. The Governor(s), or in the case of designation by chief elected officials of general purpose local government, those officials shall, after adequate public notice, hold one or more public hearings or meetings within the proposed 208 planning area for the purpose of gaining public advice on the designation of the planning area and agency. All units of local government wishing to be heard and the general public shall be included.

(c) Record of such public meetings or hearings including notice of same shall be kept and made available to the Administrator upon request. A summary of comments and meeting notes shall be submitted to the Administrator with each designation.

Subpart E—Assistance to Designated Agencies

§ 126.40 Determination of eligibility.

Assistance under section 208 (f)(1), (g), and (h) of the Act shall be provided only to those agencies designated under § 126.12, 126.13, or 126.16.

[FR Doc.73 19294 Filed 9-13 74.8 45 am]

IV. 3

MONDAY, JUNE 3, 1974
WASHINGTON, D.C.
Volume 39 ■ Number 107
PART II

federal register

ENVIRONMENTAL PROTECTION AGENCY

■

WATER QUALITY MANAGEMENT BASIN PLANS

Policies and Procedures

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Title 40—Protection of the Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

PART 130—POLICIES AND PROCEDURES FOR STATE CONTINUING PLANNING PROCESS

The purpose of this notice is to amend 40 CFR to add a new Part 130—Policies and Procedures for State Continuing Planning Process. On March 27, 1973, notice was published in the FEDERAL REGISTER (38 FR 8034) that the Environmental Protection Agency (EPA) was proposing, in the form of interim regulations, policies and procedures for the State Continuing Planning Process pursuant to section 303(e) of the Federal Water Pollution Control Act, as amended; Pub. L. 92-500, 86 Stat. 816 (1972); (33 U.S.C. 1251 et seq.) (hereinafter referred to as the Act).

Section 303(e) of the Act requires each State to submit a continuing planning process which is consistent with the Act. Following the publication of the interim regulations of March 27, 1973, and prior to the publication of these final regulations, every State received EPA approval of a State continuing planning process. These final regulations, which describe the necessary elements of a State's continuing planning process, therefore provide policies and procedures for review, revision, and approval of a State's continuing planning process in accordance with §§ 130.52 and 130.54. In addition, these regulations also provide a mechanism for States to satisfy the Statewide responsibilities of section 208(b)(2)(F thru K) and sections 303(d) (Critical waters and total maximum daily loads); 305(b) (State reports on water quality and related information, including nonpoint sources); 314(a) (Clean lakes); 516(b) (Federal/State estimate of publicly owned treatment works construction needs); and they provide data for 104(a)(5) (Federal report on water quality).

Goals. The broad goals of the continuing planning process are to provide the States with the water quality assessment and program management information necessary to make centralized coordinated water quality management decisions; to encourage water quality objectives which take into account overall State policies and programs, including those for land use and other related natural resources; and to provide the strategic guidance for developing the annual State program submittal under section 106 of the Act.

Purpose of the State process. The specific purpose of the State continuing planning process is to provide a mechanism for development of a State's program submittal under section 106 of the Act. This will be accomplished by developing an annual State strategy, which will be based upon basin plans where they are completed and upon other available information where the plans are not completed.

The annual State strategy will assist the State:

In directing resources-planning, monitoring, permitting, and financial assistance against water quality problems on a priority basis.

In establishing a coordinated schedule of action.

In reporting on progress in achieving program targets and scheduled milestones.

In providing the analysis required to revise water quality standards and to insure that applicable water quality standards are attained.

In specifying the requirements for, and scheduling the completion of, section 303 basin plans for all waters.

In determining the impact of nonpoint sources of pollution on State water quality and, where feasible, developing methods and procedures to control such sources on a statewide basis.

In insuring public participation in the development of the planning process and of basin plans.

The scope and timing of a basin plan for a specific planning area will be tailored to the problems of the area. No process should require individual basin plans to be more detailed than is necessary for sound water quality management.

Federal properties, facilities, and activities are subject to Federal, State, interstate, and local standards and effluent limitations for control and abatement of pollution. The State's planning process should include provision for Federal sources. It is contemplated that Federal agencies will provide information to the States in accordance with procedures established by the Administrator.

Relationship of the continuing planning process and the section 106 State program. State water quality management is formed through the annual section 106 State program submission. The program, consisting of a State strategy, output commitments, reporting, and evaluation, is a sequenced year-round process, as illustrated in the following figure. The cycle begins with the submission of the annual strategy, followed by the annual section 106 program submission. A semi-annual evaluation and reporting of accomplishments completes the cycle.

Basin plan contents. Companion regulations under Part 131 of this chapter, describe requirements for the preparation of basin plans pursuant to the States's continuing planning process: Part 131 regulations should be consulted during the review and revision of the continuing planning process under this Part 130.

Comments on Interim Regulations. A total of 24 written comments were received, seven from States, four from public and private utilities, three from planning organizations, four from public interest groups and the remaining from consultants, industry and other interested individuals. A number of verbal comments also were received. In addition, a task force comprised of representatives of eight State Water Pollution Control Agencies and three EPA Regional Offices reviewed the final draft and made comments and suggested language changes, as needed. The EPA has carefully considered all submitted comments. The comments ranged from those desiring more stringent requirements to those who believed that these regulations could be better handled under other sections of the Act. There was only one comment opposed to the regulations, by an industrial group.

The policy decisions have been reviewed with representative States. The EPA revised the regulations to reflect most of the concerns raised, by either adopting the comment or substantially satisfying it through editorial changes and deletions from or additions to the regulations.

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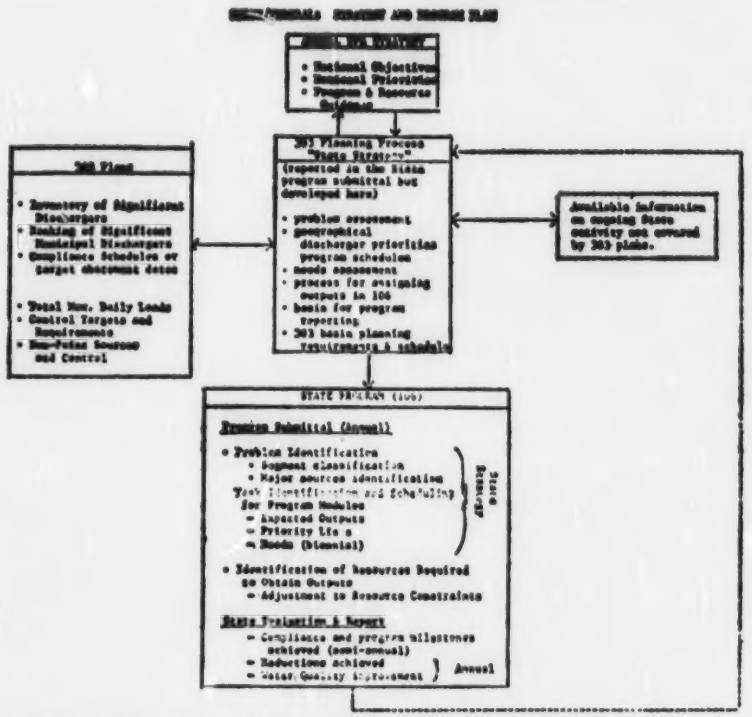
• National Objectives
• Regional Priorities
• Program & Resource Guidance
303 Planning Process "State Strategy"
(reported in the State program submittal but developed here)
• problem assessment
• geographical discharger priorities program schedules
• needs assessment
• process for assigning outputs in 106
• basis for program reporting
• 303 basis planning requirements & schedule
Available information on ongoing State activity not covered by 303 plans.
303 Plans
• Inventory of Significant Dischargers
• Ranking of Significant Municipal Dischargers
• Compliance Schedules or target abatement dates
• Total Max. Daily Loads
• Control Targets and Requirements
• Non-Point Sources and Control
STATE PROGRAM (106)
Program Submittal (Annual)
• Problem Identification
• Segment classification
• Major sources identification
Task Identification and Scheduling for Program Modules
• Expected Outputs
• Priority (if a
• Needs (biennial)
Biennially
• Identification of Resources Required to Obtain Outputs
• Adjustment to Resource Constraints
State Evaluation & Report
• Compliance and program milestones achieved (semi-annual)
• Reductions achieved
• Water Quality Improvement
Annual

a. Many commenters indicated that the term "significant discharger" was not well defined in the interim regulations. In addition, using only significant dischargers to formulate State municipal discharge inventories would not satisfy the legal requirements of the construction grants program. The regulations continue the use of the term "significant discharger"; however, its meaning has been clarified to include those dischargers for which timely management action must be taken in order to meet water quality objectives for the basin within the period of the current plan, where the States deem it appropriate to include them. The intent is to restrict the significant dischargers to those requiring control action during the span of the plan.

b. Several comments expressed concern that adequate time to develop basin plans was not allowed by the July 1, 1975, deadline. Although the 1975 deadline has been retained, the Regional Administrator is authorized to grant an extension.

c. Editorially, wording was modified somewhat to reduce duplication of language contained in Part 131 of this Chapter.

d. The level of detail and timing of basin plan preparation is to be determined by a State/EPA agreement that will be submitted as part of the annual State strategy in the Section 106 State program plan. Submission of the level of detail and timing agreement for Fiscal Year 1975 will be accomplished as a part of the revision of the initial planning process. (See § 130.42).

e. Other revisions are:

(1) Detailed explanation has been included on the requirements for increasing the scope of basin plans over time. (See § 130.20).

(2) In order to facilitate coordination between basin and facilities planning, it is now required that the state identify facilities planning areas through the continuing planning process. (See §§ 130.21 and 130.51).

(3) Some commenters indicated that the interim regulations did not address the antidegradation issue. The regulations now require explicitly that the planning process provide that basin plans be consistent with water quality standards including any antidegradation statements. (See § 130.22).

(4) Many comments were received regarding segment classification. Clarifying language has been included with respect to segment classification:.

(i) Editorially, the word "class" has been deleted from the segment classifications;

(ii) Water Quality segment classification must now include the specific water quality parameters requiring consideration.

(5) Provisions regarding land use and non-point sources of pollutants have been modified with respect to scope of basin planning and timing considerations and section 208(b)(2) (F through K) of the Act. (See §§ 130.23 and 131.202).

(6) Since land disposal of wastes may have adverse effects on surface or ground waters, requirements respecting control of such disposal have been restated, under the authority of sections 208 and 303(e), to clarify the need to consider the consequences to each category.

(7) Requirements regarding revisions to the process have been clarified. Annual reviews and, as may be necessary annual revisions are now required as part of the Section 106 State program submittal each year. The 1974 revisions will be submitted within 90 days following the publication of these regulations and must address whatever changes are necessary to insure conformity with §§ 130.11(e) and (f), 131.203, and 130.42. (See § 130.54).

(8) Changes requested that were not incorporated were to lengthen beyond five years the period of basin plan coverage and to allow a period greater than 30 days for public participation. The intent is that the basin plans will be more specific if limited to a five year span; and under the regulations this is only a minimum requirement which may be expanded to cover a twenty year period broken into five year increments. Further, it should be noted that priorities and expenditures within a five year period determine controls and water quality improvements over a much longer period.

The minimum period for public participation was not extended beyond 30 days since it was felt that this period normally would be sufficient for presenting one's case and that additional time, where warranted, could be allowed in individual cases.

State continuing planning processes which have been submitted and approved pursuant to the interim regulations published March 27, 1973, remain in force until revisions are made to the process pursuant to § 130.54. In consideration of the foregoing, Title 40 CFR is hereby amended to add a new Part 130—Policies and Procedures for State Continuing Planning Process.

Effective date: July 3, 1974.

Dated: May 24, 1974.

RUSSELL TRAIN,
Administrator.

Subpart A—Scope and Purpose; Definitions

Sec.
130.1 Scope and purpose
130.2 Definitions.

Subpart B—General Requirements

130.10 Process coverage and coordination functions.
130.11 Classification of basin segments.
130.12 Designation of planning agencies
130.13 Public participation
130.14 Separability.

Subpart C—Requirements for Basin Plans

130.20 Content and scope of basin plans.
130.21 Establishment of planning areas.
130.22 Water quality standards; antidegradation.
130.23 Non-point sources of pollutants
130.24 Monitoring and surveillance
130.25 Intergovernmental cooperation
130.26 Adoption, certification, and submittal of basin plans.

Subpart D—Requirements for Annual State Strategy

130.40 State strategy; contents.
130.41 Segment priority ranking

A13C

Sec.
130.42 Agreement on level of detail and timing of basin plan preparation
130.43 State municipal discharge inventory; priority ranking.
130.44 State industrial discharge inventory.

Subpart E—Submission and Approval of Planning Process; Reports

130.50 Submission of process.
130.51 Contents of process submittal.
130.52 Review and approval or disapproval of process.
130.53 Prohibition of approval of certain planning processes; withdrawal of process approval.
130.54 Review and revisions of process.
130.55 Reports; State program submittal.

Subpart F—Relationship of Process to Permit Program

130.60 Relationship of continuing planning process to State participation in National Pollutant Discharge Elimination System

AUTHORITY: Secs. 106, 208(b)(2), 303(d), 303(e), 305(b), 314, 501, 516(b) of the Federal Water Pollution Control Act, as amended; Pub. L. 92-500, 86 Stat. 816 (1972); (33 U.S.C. 1251 et seq.).

Subpart A—Scope and Purpose; Definitions

§ 130.1 Scope and purpose.

(a) This part establishes regulations specifying procedural and other requirements for the submission and approval of State continuing planning processes pursuant to section 303(e) of the Federal Water Pollution Control Act, as amended; Pub. L. 92-500, 86 Stat. 816 (1972); (33 U.S.C. 1251 et seq.).

(b) The broad goals of the continuing planning process are: to provide the States with the water quality assessment and program management information necessary to make centralized coordinated water quality management decisions; to encourage water quality objectives which take into account overall State policies and programs, including those for land use and other related natural resources; and to provide the strategic guidance for developing the annual State program submittal under section 106 of the Act.

(c) The State continuing planning process is directed toward the attainment of water quality standards established under section 303 of the Act which are designed to achieve the goals set forth in the Act. The continuing planning process provides a mechanism for developing an annual State strategy for directing resources; establishing priorities; scheduling actions; and reporting progress toward the achievement of program objectives.

(d) The "continuing planning process" is the process by which the State develops:

(1) The annual State strategy, which sets the State's major objectives and priorities for preventing and controlling pollution over a one to three year period.

(2) Individual basin plans, which establish specific programs and targets for preventing and controlling water pollution in individual basins and establish policies which guide decision making over a five to ten year span of time.

(3) The annual program plan (section 106), which establishes the results expected and identifies the resources committed for the State program each year.

(e) This part describes:

(1) The general requirements for the planning process (Subpart B of this part).

(2) The planning process requirements for the preparation of basin plans (Subpart C of this part).

(3) The preparation of the annual State strategy (Subpart D of this part).

(4) The requirements for submission and approval of the planning process (Subpart E of this part).

(5) The relationship of the process to the permit program (Subpart F of this part).

§ 130.2 Definitions.

As used in this part, the following terms shall have the meanings set forth below.

(a) The term "Act" means the Federal Water Pollution Control Act, as amended; Pub. L. 92-500, 86 Stat. 816 (1972); (33 U.S.C. 1251 et seq.).

(b) The term "EPA" means the United States Environmental Protection Agency.

(c) The term "Administrator" means the Administrator of the Environmental Protection Agency.

(d) The term "Regional Administrator" means the appropriate EPA Regional Administrator.

(e) The terms "continuing planning process," "planning process," and "process" mean the continuing planning process required by section 303(e) of the Act including any revision thereto.

(f) The term "basin plan' means the water quality management plan for each hydrologic basin or other approved basin unit within a State. Such plans form a basis for implementing applicable effluent limitations and water quality standards, and consist of such elements as are necessary for sound planning and program management in the basin covered by the plan. Requirements for the preparation of basin plans are described in Part 131 of this chapter.

(g) The term "effluent limitation" means any restriction established by a State or the Administrator on quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources into navigable waters, the waters of the contiguous zone, or the ocean, but does not include schedules of compliance.

(h) The term "schedule of compliance" means remedial measures to be accomplished and a sequence of actions or operations leading to compliance with applicable effluent limitations, water quality standards and other requirements of State and Federal law. Schedule of compliance includes those sequenced actions or operations contained in a National Pollutant Discharge Elimination System permit which are legally binding on the discharger; whereas, the term "target abatement dates" means a sequence of actions or control measures which have not been formally adopted through the permit process and therefore are not legally binding on the discharger until they are adopted in a permit.

(i) The term "municipal needs" means the total capital funding required for construction of publicly owned treatment works, as defined in section 212 (2)(A) and (B) of the Act, required to meet national water quality objectives of sections 301 and 302 of the Act.

(j) The term "National Pollutant Discharge Elimination System" means the national permitting system authorized under section 402 of the Act, including any State or interstate permit program which has been approved by the Administrator pursuant to section 402 of the Act.

(k) The term "phasing of planning" means the State schedule approved by the Regional Administrator for the preparation of basin plans.

(l) The term "basin" means the streams, rivers, tributaries, and lakes and the total land and surface water area contained within one of the major or minor basins defined by EPA, or any other basin unit as agreed upon by the State(s) and the Regional Administrator. Unless otherwise specified, "basin" shall refer only to those portions within the borders of a single State.

(m) The term "segment" means a portion of a basin, the surface waters of which have common hydrologic characteristics (or flow regulation patterns); common natural physical, chemical, and biological processes; and common reactions to external stresses, such as the discharge of pollutants. (See § 130.11(d)).

(n) The term "significant discharge" means any point source discharge for which timely management action must be taken in order to meet the water quality objectives for the basin within the period of the operative basin plan. The significant nature of the discharge is to be determined by the State, but must include, at a minimum, any discharge which is causing or will cause serious or critical water quality problems relative to the segment to which it discharges.

(o) The definitions of the terms contained in section 502 of the Act shall be applicable to such terms as used in this part unless the context otherwise requires.

Subpart B—General Requirements

§ 130.10 Process coverage and coordination function.

(a) The process shall provide for the preparation of basin plans for all waters within the State, as provided in Subpart C of this part.

(b) The process shall establish phasing of plans to be accomplished, as provided in Subpart D of this part.

(c) The process shall provide the method by which the State shall coordinate all water quality planning, programming and management.

(d) The process shall provide the method by which the State shall coordinate its water quality management planning with related State and local comprehensive, functional, and project planning activities, including land use and other natural resources planning activities.

(e) The process shall provide the method by which the State shall coordinate its water quality management planning with that of its neighboring States.

§ 130.11 Classification of basin segments.

(a) The requirements of this part and Part 131 of this chapter vary according to the classification of each particular basin segment, such that the time and resources to be extended in developing the basin plan for a particular segment, as well as the substantive content of the basin plan, will be commensurate with the severity of the water pollution problem, as described in Subpart B of Part 131 of this chapter.

(b) The classification of segments also shall be used in establishing State priorities in accordance with Subpart D of this part.

(c) The classification of segments shall be based upon measured instream water quality, where available.

(d) Each basin segment shall be classified as follows:

(1) *Water quality.* Any segment where it is known that water quality does not meet applicable water quality standards and/or is not expected to meet applicable water quality standards even after the application of the effluent limitations required by sections 301(b)(1)(A) and 301(b)(1)(B) of the Act.

(2) *Effluent limitations.* Any segment where it is known that water quality is meeting and will continue to meet applicable water quality standards or where there is adequate demonstration that water quality will meet applicable water quality standards after the application of the effluent limitations required by sections 301(b)(1)(A) and 301(b)(1)(B) of the Act.

(e) Each Water Quality segment classification shall include the specific water quality parameters requiring consideration in the total maximum daily load allocation process, as provided in § 131.304 of this chapter.

(f) Each segment classification shall reflect any necessary allowance for anticipated economic and demographic growth over at least a five year period and an additional allowance reflecting the degree of precision and validity of the analysis upon which the classification is based. Where the analysis is less precise, or there is uncertainty concerning growth projections, a greater margin of safety shall be required for the assignment of any segment as an Effluent Limitation Segment. In determining the additional allowance, consideration should be given to economic and demographic projections that are utilized in other State environmental and natural resource programs.

§ 130.12 Designation of planning agencies.

(a)(1) The Governor of a State shall designate a State agency responsible to conduct the required planning under this part and Part 131 of this chapter. The Governor may designate a local or interstate agency to conduct all or any portion of the planning within each basin and may assign planning responsibilities under the process and Part 131 of this chapter to any such designated agency.

(2) Locally elected officials of general purpose units of government, and other pertinent local and areawide organizations within the jurisdiction of a proposed designated agency, shall be consulted prior to any final designation.

(b)(1) Each designation shall include:

(i) The agency's name, address, and name of the director.

(ii) The agency's jurisdiction (geographical coverage and extent of planning responsibilities).

(2) In the event that all or a portion of a basin plan is to be undertaken by an agency other than the State water pollution control agency, evidence from such other agency shall be supplied which shows acceptance of such designation and the agency's intent to comply within the time schedules set forth in the planning process.

(3) The State may make additional assignments, as set forth in this section, from time to time. Such designations shall be accomplished by revising the planning process as provided in § 130.54.

§ 130.13 Public participation.

Each process, and any revision thereof, shall provide for public participation in accordance with section 101(e) of the Act and regulations issued by the Administrator thereunder. Public participation, with adequate opportunity for public hearing upon proper showing, shall be required on significant elements of the planning process, including the proposed State strategy and priority lists developed under the continuing planning process pursuant to section 106 regulations.

§ 130.14 Separability.

If any provision of this part, or the application of any provision of this part to any person or circumstance, is held invalid, the application of such provision to other persons or circumstances, and the remainder of this part, shall not be affected thereby.

Subpart C—Requirements for Basin Plans

§ 130.20 Content and scope of basin plans.

(a) The process shall provide that basin plan analysis, preparation, documentation, and coordination for segments shall be developed as prescribed in Part 131, Subparts B and C, of this chapter.

(b) The process shall provide that basin planning will increase in scope as prescribed in § 131.202 of this chapter.

§ 130.21 Establishment of planning areas.

The process shall provide for the establishment of basin planning areas as specified in § 131.203 of this chapter.

§ 130.22 Water quality standards; antidegradation.

(a) The process shall provide that each basin plan shall set forth and be consistent with applicable water quality standards, including any antidegradation statement.

(b) The process, including the basin plans developed as part of the process, shall be used by the States to assist in making any necessary revisions of water quality standards.

§ 130.23 Nonpoint sources of pollutants.

The process shall provide that, where the Governor so determines, the requirements of section 208(b)(2) (F through K) may be applied on a statewide basis, as prescribed in regulations prepared for designation of areawide waste treatment management planning areas. (§ 126.20 of this chapter.)

§ 130.24 Monitoring and surveillance.

The process shall provide for a monitoring and surveillance program which is designed to assure collection of data necessary to establish and review water quality standards, determine total maximum daily loads, load allocations and effluent limitations, and assess, where required, the contamination of land and groundwater systems caused by disposal of residual wastes or other pollutants on land or in subsurface excavation, as described in Part 131, Subpart D, of this chapter; and to establish the relationship between water quality and individual discharges and identify nonpoint sources of pollutants. (See also Subpart B of Part 35 of this chapter.)

§ 130.25 Intergovernmental cooperation.

(a) The process shall provide that in the preparation of basin plans, adequate areawide and local planning inputs will be included in the basin plan as appropriate. (See § 131.309 of this chapter.)

(b) The process shall provide that local governments within the State will be encouraged to utilize existing, or develop appropriate institutional or other arrangements with other local governments in the same State, for cooperation in the development and implementation of basin plans.

(c) The process shall provide for interstate cooperation whenever a basin plan involves the interests of more than one State. Such provision shall include the following assurances:

(1) That when a basin plan is under development in the State for an area affecting or affected by waters of one or more other States, the planning agency will cooperate with each such other State in the analyses and planning pertinent to such area, including but not limited to problem assessment and priorities and schedules for basin plan preparation. (See §§ 130.41 and 130.42.)

(3) That when a basin plan is under development in another State for an area affecting or affected by waters of the State, the State will cooperate with such other State in the analyses and planning pertinent to such area.

(d) The use of interstate agencies in all phases of interstate cooperation in water quality management planning is encouraged.

(e) The process shall describe the mechanism for State approval of water quality management basin plans involving interstate waters.

§ 130.26 Adoption, certification and submittal of basin plans.

The process shall provide that after appropriate public hearings the basin plans will be adopted, certified, and submitted to the appropriate Regional Administrator, as specified in Part 131, Subpart E, of this chapter.

Subpart D—Requirements for Annual State Strategy

§ 130.40 State strategy; contents.

(a) The planning process shall provide for the preparation of an annual State strategy. The annual State strategy shall be submitted as part of the section 106 State program submittal, as required pursuant to § 130.55. The Governor or his designee(s) shall be provided an opportunity to be involved in the identification and resolution of significant issues in the formulation of the State strategy.

(b) The State strategy shall contain:

(1) A statewide assessment of water quality problems and the causes of these problems.

(2) A listing of the geographical priorities of these problems.

(3) A description of the State's approach to solving its water quality problems identified in subparagraph (1) of this paragraph, including a discussion of the extent to which non-point sources of pollution will be addressed by the State program.

(4) A listing of the priorities and scheduling of permits, construction grants, basin plans, areawide plans and other appropriate program actions to carry out subparagraph (3) of this paragraph.

(5) A description of the level of detail and the schedule for preparation of basin plans proposed for each basin or portion thereof.

(6) A description of the manner in which the information, analyses, estimates, or recommendations required to satisfy the provisions of section 305(b) of the Act will be obtained together with all such information, analyses, estimates or recommendations as may be available at the time of submission of the State strategy unless the State chooses to submit the 305(b) report separately from the State strategy.

(c) The State strategy should be based upon other information derived from completed basin plans, when available, and from other available information in areas where basin plans are not completed.

§ 130.41 Segment priority ranking.

(a) Based on the annual statewide assessment of the water quality problems and causes of these problems developed pursuant to § 130.40(a)(1), the State shall rank each segment in priority order, taking into account:

(1) Severity of pollution problems.

(2) Population affected.

(3) Need for preservation of high quality waters.

(4) National priorities as determined by the Administrator.

(5) Additional factors identified by the State in its priority system.

(b) Segments of the same basin need not be listed together; however, their ranking in the State list shall be consistent with their ranking in any approved basin plan.

(c) The State segment priority ranking generally shall govern the development of basin plans, construction of publicly owned treatment works, issuance of permits, and other program activities.

§ 130.42 Agreement on level of detail and timing of basin plan preparation.

(a) The level of detail and timing of basin plan preparation proposed for each basin, or portion thereof, shall be determined by agreement between the State and the appropriate Regional Administrator. All basin plans must be submitted by July 1, 1975; however, the appropriate Regional Administrator may extend the time for submission by agreement with the State. The State will provide a proposed schedule for basin plan preparation and proposed level of detail of basin planning as part of the annual State strategy. Approval of the section 106 State program, including the annual State strategy, will serve as approval of the schedule and level of detail of basin planning.

(b) The schedule shall provide a sequence for phasing of planning to assure the orderly implementation of the planning process, consistent with existing planning efforts and needs and the expanding capabilities for planning in the State. Such schedule shall determine the State's priorities for the development of basin plans pursuant to the process during the period covered by the schedule.

(c) The schedule of basin plans shall be determined following consideration of:

(1) The ranking of segments pursuant to § 130.41 and the number of Water Quality segments in the basin; and

(2) Any other factors the State may deem appropriate in developing and scheduling plans for sound water quality management.

(d) Where agreement on level of detail and timing of basin planning has not previously been specified for Fiscal Year 1975, the State shall submit the proposed level of detail and timing of basin planning together with planning process revisions as specified in § 130.54.

§ 130.43 State municipal discharge inventory; priority ranking.

(a) Each State shall establish and maintain a State Municipal Discharge Inventory. The inventory shall set forth a Statewide ranking of significant municipal dischargers. The inventory shall be used in establishing priorities and output estimates for municipal facilities construction and in other program actions to be developed as part of the State program submittal required under section 106 of the Act. The inventory shall become the list of municipalities required in § 35.915(b) of this chapter for award of construction grants.

(b) The State Municipal Discharge Inventory shall be revised and submitted at least once each year, as required pursuant to § 130.55.

(c) The State shall rank significant municipal dischargers consistent with the segment priority rankings contained in § 130.41.

§ 130.44 State industrial discharge inventory.

Each State shall establish and maintain a State Industrial Discharge Inventory. The inventory should reflect the relative importance of significant dischargers and shall be used for guidance in establishing the annual State strategy. Problem identification and segment ranking should be used in developing the State Industrial Discharge Inventory.

Subpart E—Submission and Approval of Planning Process; Reports

§ 130.50 Submission of process.

(a) The Governor of each State shall submit to the Regional Administrator the continuing planning process.

(b) Submission shall be accomplished by delivering to the Regional Administrator five copies of the planning process and a letter from the Governor notifying him of such action.

§ 130.51 Contents of process submittal.

(a) The submittal shall contain, at a minimum, the following:

(1) A map of the State showing basins and segments and a map showing recommended areas delineated for facilities planning.

(2) A listing of the classifications of segments.

(3) A description of the planning method employed to formulate basin plans.

(4) A listing of the planning agency or agencies that will perform the planning under this part and Part 131 of this chapter.

(5) A description of public participation in the development of the process, including participation of local governments.

(6) A statement that legal authorities required to prepare and adopt basin plans as required by the planning process exist or will be obtained.

(7) A description of reports, including the State strategy, that will be submitted under section 106 of the Act.

§ 130.52 Review and approval or disapproval of process.

The Regional Administrator shall approve or disapprove the planning process submitted pursuant to § 130.50 within 30 days after the date of submission, as follows:

(a) If the Regional Administrator determines that the planning process conforms with the requirements of the Act and this Part 130, he shall so notify the Governor by letter.

(b) If the Regional Administrator determines that the process fails to conform with the requirements of the Act and this Part 130, he shall so notify the Governor by letter and shall state:

(1) The specific revisions necessary to obtain approval of the process.

(2) The time period for resubmission of the revised process or portions thereof.

§ 130.53 Prohibition of approval of certain planning processes; withdrawal of process approval.

The Regional Administrator shall not approve any continuing planning process which will not result in timely basin plans for all navigable waters within the State that conform with the applicable requirements of sections 303(e), 314(a), 208(b)(2)(F-K), and 303(d) of the Act and Part 131 of this chapter, relating to such basin plans. Substantial failure of any basin plan or plans prepared pursuant to the process to conform with such applicable requirements may indicate that the planning process by which such basin plan or plans were developed was deficient and should be revised. Failure to accomplish necessary revisions of the planning process may result in withdrawal of approval of part or all of the process.

§ 130.54 Review and revisions of process.

(a) The State shall review annually its continuing planning process and shall revise the process as may be necessary to assure the development and maintenance of a State strategy and current basin plans which will accomplish national water quality objectives in conformity with the requirements of the Act.

(b) The State shall submit annual planning process revisions to the Regional Administrator as part of the State Program Plan submittal under section 106 of the Act.

(c) In addition to any other necessary revisions identified by the State or the Regional Administrator, the State shall submit, within 90 days after publication of these regulations, whatever revisions to its planning process are necessary to insure conformity with §§ 130.11(e) and 130.11(f) and § 131.203 of this chapter.

(d) Revisions of the process shall be submitted in accordance with § 130.50.

(e) Review and approval or disapproval of revisions of the process shall be carried out in accordance with § 130.52.

§ 130.55 Reports; State program submittal.

The annual State strategy including the State problem assessment and priorities described in § 130.41, the State/EPA agreement on level of detail and timing of basin plan preparation as described in § 130.42, the State Municipal Discharge Inventory described in § 130.43, and the State Industrial Discharge Inventory described in § 130.44, as well as any other program progress report(s) which may be required, shall be submitted as part of the State program submittal under section 106 of the Act.

Subpart F—Relationship of Process To Permit Program

§ 130.60 Relationship of continuing planning process to State participation in National Pollutant Discharge Elimination System.

(a) State participation in the National Pollutant Discharge Elimination System, other than the interim participation provided in section 402(a)(5) of the Act, shall not be approved for any State which does not have an approved continuing planning process.

(b) Approval of State participation in the National Pollutant Discharge Elimination System may be withdrawn from any State if approval of the continuing planning process is withdrawn for any reason, including withdrawal of process approval based on gross failure to comply with the schedule for basin plan preparation (§ 130.42) or on failure of basin plans to conform with the planning process requirements (§ 130.52).

[FR Doc.74-12569 Filed 5-31-74;8:45 am]

PART 131—PREPARATION OF WATER QUALITY MANAGEMENT BASIN PLANS

The purpose of this part is to amend 40 CFR to add a new Part 131—Preparation of Water Quality Management Basin Plans. On May 23, 1973, notice was published in the FEDERAL REGISTER (38 FR 13567) that the Environmental Protection Agency was proposing policies and procedures designed to assist States in the preparation of water quality management basin plans pursuant to section 303(e) of the Federal Water Pollution Control Act, as amended; Pub. L. 92-500, 86 Stat. 816 (1972); (33 U.S.C. 1251 et seq.) (hereinafter referred to as the Act).

Section 303(e) of the Act requires each State to have a continuing planning process which is consistent with the Act. Basin plans under this part will be prepared in accordance with the State's continuing planning process submitted and approved pursuant to Part 130 of this chapter.

The regulations describe the requirements for preparation of basin plans and the procedures governing basin plan adoption, submission, revision, and EPA approval. The relationship of basin plans with EPA grants and the national permit system also is described. Provision is included for coordination between basin plans and any discharge permit for a source located in a planning area.

The regulations are designed to assure that basin plans prepared pursuant to this part will be appropriate for water quality management both in areas having complex water quality problems and in less complicated situations.

Written comments on the proposed regulations were invited and received from interested parties. A number of verbal comments also were received. The Environmental Protection Agency has carefully considered all submitted comments. All written comments are on file with the Agency. Certain of these comments have been adopted or substantially satisfied by editorial changes and deletions from or additions to the regulations. These and other principal changes are discussed below and in the preamble to Part 130 of this chapter.

(a) Since § 130.1-2 of this chapter will be superseded by Part 35, Subpart E of this chapter, the requirement that basin plans be coordinated with § 130.1-2 plans, has been deleted. Also, the requirement that basin plans be coordinated with water quality standards implementation plans has been deleted.

(b) Each basin plan must now be based on "best available" monitoring and surveillance data. (See § 131.400).

(c) Requirements regarding revisions to basin plans have been clarified. Each basin plan must be revised within five years of the last approval date; specific considerations in the revision process are also listed. (See § 131.505).

Section 131.507 clarifies § 35.925-2 to indicate that disapproval by the Regional Administrator of a basin plan, or relevant portion thereof, for the area where a project is to be located may constitute grounds for not approving a grant for such project. This revision will be included in an amendment to 40 CFR Part 35, Subpart E, § 35.925-2.

Those basin plans prepared under State continuing planning processes which have been submitted and approved pursuant to the interim regulations published May 23, 1973, remain in force until revisions are made to the basin plans pursuant to § 131.505 of this part. In consideration of the foregoing, Title 40 CFR is hereby amended to add a new Part 131—Preparation of Water Quality Management Basin Plans.

Effective date: July 3, 1974.

Dated: May 24, 1974.

RUSSELL E. TRAIN,
Administrator.

Subpart A—Scope and Purpose; Definitions

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131.100 Scope and purpose.
131.101 Definitions.

Subpart B—Preparation for Basin Planning

131.200 General.
131.201 Basin plan elements.
131.202 Scope and timing of basin plan submission.
131.203 Boundaries of planning area.

Subpart C—Basin Plan Methodology and Contents

131.300 General.
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131.302 Schedules of compliance; coordination with permits.
131.303 Assessment of municipal needs.

Sec.
131.304 Determination of total maximum daily loads.
131.305 Individual point source load allocations; impact on water quality.
131.306 Individual non-point source assessment; impact on water quality.
131.307 Establishment of regional water control program.
131.308 Revisions to water quality standards.
131.309 Identification of relationship to other plans.
131.310 Coordination of certain planning elements and terms of permits.

Subpart D—Monitoring and Surveillance

131.400 Relationship of monitoring and surveillance program to basin plans.
131.401 Coverage of monitoring and surveillance program.
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131.404 Output of monitoring surveys.
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Subpart E—Completion and Review of Basin Plans; Relation to Permits and Grants

131.500 Basin plan adoption.
131.501 Certifications.
131.502 Public participation.
131.503 Submission of basin plans.
131.504 Review and approval or disapproval of basin plans.
131.505 Revision of basin plans.
131.506 Prohibition of approval of certain basin plans; withdrawal of process approval.
131.507 Prohibition of certain construction grants.
131.508 Discharge permit terms and conditions.
131.509 Severability.

AUTHORITY: Sec. 303(e) of the Federal Water Pollution Control Act, as amended; Pub. L. 92-500, 86 Stat. 816 (1972); (33 U.S.C. 1251 et seq.) (hereinafter referred to as the Act).

Subpart A—Scope and Purpose; Definitions

§ 131.100 Scope and purpose.

(a) This part establishes regulations specifying procedural and other requirements for the preparation of basin plans pursuant to a State continuing planning process approved in accordance with section 303(e) of the Federal Water Pollution Control Act, as amended; Pub. L. 92-500, 86 Stat. 816 (1972); (33 U.S.C. 1251 et seq.), and Part 130 of this chapter.

(b) A basin plan is a management document which identifies the water quality problems of a particular basin and sets forth an effective remedial program to alleviate those problems. The basin plan is neither a broad water and related land resources plan nor a basin-wide facilities plan. The value of a basin plan lies in its utility in making water quality management decisions on a basin-wide scale. To achieve this objective, the detail of the basin plan should be designed to provide the necessary analysis for basin management decisions. Moreover, there must be a flexible revision mechanism to reflect changing conditions in the basin. A basin plan should be a dynamic management tool, rather than a rigid, static compilation of data and material.

(c) A basin plan will provide for orderly water quality management by:

(1) *Identifying problems.* Assessing existing water quality, applicable water quality standards, point sources of pollution, and, if appropriate, non-point sources of pollution.

(2) *Assessing needs and priorities.* Assessing water quality and abatement needs so as to identify any deficiencies in the Statewide priorities developed in accordance with §§ 130.41 through 130.44 of this chapter.

(3) *Scheduling actions.* Setting forth compliance schedules where permits have been issued or target abatement dates where permits have not been issued and indicating necessary State and local activities.

(4) *Coordinating planning.* Identifying needs and priorities for section 201 facility plans and section 208 areawide plans within the basin and reflecting the results of those activities.

§ 131.101 Definitions.

The definitions set forth in § 130.2 of this chapter shall apply to this part.

Subpart B—Preparation for Basin Planning

§ 131.200 General.

(a) Each basin plan under this part shall be prepared pursuant to the State planning process submitted and approved in accordance with Part 130 of this chapter.

§ 131.201 Basin plan elements.

(a) Basin planning elements vary with the water quality problems and the water quality decisions to be made in a particular basin. Generally, basin planning elements are consonant with the segment classifications indicated in the following table.

(b) The waters within the planning basin shall be classified as Water Quality segments and/or Effluent Limitation segments as described in Part 130, Subpart B of this chapter.

(c) The segment analyses as outlined in this Part 131, shall be used to reclassify, as appropriate, the current State classification of segments pursuant to § 130.11 of this chapter.

(d) The level of detail and the schedule of basin plan preparation will depend on the water quality problems and the water quality decisions to be made and shall be determined by the State/EPA agreement in accordance with § 130.43 of this chapter.

BASIN PLANNING ELEMENTS

	Water quality segments	Effluent limitation segments
1. Inventory and ranking of significant discharges (§ 131.203)	X	X
2. Schedule of compliance or target dates (§ 131.203)	X	X
3. Assessment of municipal needs (§ 131.203)	X	X
4. Determination of total maximum daily loads (§ 131.204)	X	
5. Regulatory or targeted load allocations and effluent limitations (§ 131.205)	X	
6. Assessment of non-point sources of pollution (§ 131.206)	X	
7. Municipal waste controls (§ 131.207)	X	X
8. Recommended water quality standards revisions (§ 131.208)	X	X
9. Planning relationships (§ 131.209)	X	X
10. Areawide, municipal and miscellaneous reporting (Part 131, Subpart D)	X	X
11. Interstate/intergovernmental cooperation (§ 130.20)	X	X

§ 131.202 Scope and timing of basin plan submissions.

(a) All basin plans must be submitted by July 1, 1975, unless an extension of time has been granted by the Regional Administrator pursuant to § 130.42 of this chapter, and shall concentrate on:

(1) Point source management provisions, including data assembly and significant discharge inventories;

(2) Waste load analysis in Water Quality segments, based on existing or readily obtainable data;

(3) Schedules of compliance or target abatement dates;

(4) An assessment of municipal needs for Federal construction grant assistance; and

(5) A recognition of non-point sources, to the extent feasible, to establish discharge load allocations for point source discharges.

(b) Revisions to basin plans after July 1, 1975, shall reconsider, where substantive changes have occurred, current actions with respect to the most recent data or analysis and shall concentrate, if appropriate, on the identification and evaluation of methods and procedures (including land use requirements) to control, to the extent feasible, non-point sources of pollution.

§ 131.203 Boundaries of planning area.

(a) Each basin planning area shall be the area within the basin boundary.

(b) Except as provided in paragraph (c) of this section, the basin boundaries shall be those identified as minor basins in the EPA water quality information system.

(c) The State planning process may provide for the establishment of planning boundaries differing from those identi-

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fied in the EPA basin system. Any such differing boundaries shall be submitted to the Regional Administrator for approval.

(d) Each basin plan shall contain a delineation of the boundaries of the basin on a map of appropriate scale. Such map or maps shall include, but are not limited to:

(1) An identification of the location of each significant discharger by river mile and/or shore location for bays, lakes and estuaries.

(2) An identification of the location of all monitoring stations (Federal-State-Local) by river mile and/or grid location.

NOTE: Such a map may omit discharger and monitoring station locations if such locations are available in the EPA water quality information system and if the basin plan includes the listing described in § 131.301(b) and a list of monitoring stations and their locations.

Subpart C—Basin Plan Methodology and Contents

§ 131.300 General.

This subpart describes the methodology to be used in formulating the appropriate elements of basin plans as specified in Subpart B of this part.

§ 131.301 Inventory of sources; analysis of significant dischargers; segment priority ranking.

(a) Each basin plan shall include an inventory of municipal and industrial sources and a ranking of municipal sources which shall be used by the State in the development of the State strategy, described in Part 130, Subpart D of this chapter.

(b) Each basin plan shall include an analysis of each significant discharger of pollutants, set forth the location of each source, and describe, by parameter, its waste discharge characteristics. The analysis should include data from the National Pollutant Discharge Elimination System. A summary of the information should be included in the basin plan.

(c) Each basin plan shall include a ranking of the basin segments in order of abatement priority for the purpose of identifying deficiencies in the Statewide priorities developed in §§ 130.41 through 130.44 of this chapter.

§ 131.302 Schedules of compliance; coordination with permits.

(a) Each basin plan shall include schedules of compliance or target dates of abatement for significant dischargers identified in § 131.301.

(b)(1) Each schedule of compliance or target date of abatement shall include milestone dates, as follows:

(i) The major interim and final completion dates included as terms or conditions of a permit, if any, that are necessary to assure an adequate tracking of progress towards compliance.

(ii) Where the source is required to obtain a permit under the National Pollutant Discharge Elimination System but no permit has been issued as of the date that the plan is submitted, a target date when the source must obtain a permit, as well as other target abatement dates that will enable an adequate tracking of progress towards completion of the facility.

(2) A basin plan may, at the option of the State, describe the legal basis for enforcement of schedules of compliance (e.g., adopted as State law; promulgated as State regulations; incorporated or to be incorporated in waste discharge permits).

§ 131.303 Assessment of municipal needs.

(a) Each basin plan shall include an assessment of municipal needs that have been identified, using the following criteria:

(1) Load reduction to be achieved by each facility, and why this reduction is required to attain and maintain applicable water quality standards and effluent limitations.

(2) Population or population equivalents to be served, including forecast growth or decline of such population over a 20 year period following the scheduled date for installation of the needed facility. These analyses shall take into account projections used in other State and local planning activities.

(3) Types of facilities needed and their investment costs derived from approved section 201 facilities plans, section 208 areawide waste treatment management plans, or facilities designs and specifications, if available.

(4) In the absence of the above plans and designs, an indication of facilities required to be considered as an option under future section 201 facilities or section 208 areawide planning and preliminary estimates of their costs.

(b) Cost estimates for facilities meeting the above criteria shall be based on engineering plans, specifications, and detailed cost estimates, where available. For any facility for which detailed estimates do not exist, cost estimates shall be made based on available guidelines prepared by the Administrator.

§ 131.304 Determination of total maximum daily loads.

(a) Each basin plan shall include for each Water Quality segment the total maximum daily loads of pollutants, including thermal loads, allowable for each specific criterion being violated or expected to be violated. Such loads shall be at a level at least as stringent as necessary to implement the applicable water quality standards, including:

(1) Provision for seasonal variation; and

(2) Provision of a margin of safety which takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality and an additional margin of safety which takes into account any uncertainty resulting from insufficiency of data, including data from non-point sources of pollutants.

(b)(1) Each basin plan shall estimate for each Water Quality segment where thermal standards may be violated, the total daily thermal load allowable in such segment. Such load shall be at a level at least as stringent as necessary to assure the protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife. Such loads shall take into account:

(i) Normal water temperatures.

(ii) Flow rates.

(iii) Seasonal variations.

(iv) Existing sources of heat input.

(v) The dissipative capacity of the identified segment.

(2) Each estimate shall include an estimate of the maximum heat input that can be made into each Water Quality segment where temperature is one of the criteria being violated and shall include a margin of safety which takes into account lack of knowledge concerning the development of thermal water quality criteria for protection and propagation of indigenous biota in the identified segment.

(c) Where predictive mathematical models are used in the determination of total maximum daily loads, each model shall be identified and briefly described, and the specific use of the model shall be cited.

§ 131.305 Individual point source load allocations; impact on water quality.

Each basin plan shall establish discharge load and thermal load allocations or target allocations for point and non-point sources in each Water Quality segment as follows:

(a) The basin plan shall establish a discharge load allocation or target load allocation in each Water Quality segment for the purpose of establishing effluent limitations for significant dischargers and, to the degree feasible, for other sources including non-point sources identified pursuant to § 131.306 and shall, where appropriate, establish a load allocation for each thermal source. The total of such discharge load allocations or effluent limitations for all sources in the segment shall not exceed the total maximum daily load or thermal load allocation established or estimated for such segment pursuant to § 131.304.

(b) Each discharge load allocation and thermal load allocation established or estimated pursuant to this paragraph shall incorporate an allowance for anticipated economic and demographic growth over at least a five-year period and an additional allowance reflecting the precision and validity of the method used in determining such allowance.

(c) Establishment of discharge load allocations and thermal load allocations shall be coordinated with the development of terms and conditions of permits under the National Pollutant Discharge Elimination System in the manner prescribed in § 131.310.

§ 131.306 Individual non-point source assessment; impact on water quality.

(a) Each basin plan shall provide for the consideration, if appropriate, of agricultural, silvicultural, mining related, construction activity related, salt water intrusion related and other non-point discharges in accordance with § 131.302.

(b) Each basin plan shall identify and evaluate water quality problems in Water Quality segments caused by non-point source discharges including, at a minimum, a description of the type of problem, an identification of the waters affected, including an evaluation of the effects, and an identification of non-point sources contributing to the problem.

(c) Each basin plan shall identify and evaluate alternative procedures and methods (including land use requirements) to control, to the extent feasible, non-point sources contributing to water quality problems in Water Quality segments. The evaluation should consider the technical, legal, institutional, economic and environmental impact and feasibility of such procedures and methods. The most feasible alternative should be described in the basin plan. Data obtained from the basin plan monitoring program established pursuant to Subpart D of this part shall be employed in making the identifications and analyses required by this section.

§ 131.307 Establishment of residual waste control process.

Each basin plan shall identify necessary controls to be established over the disposition of residual wastes from municipal, industrial, or other water or waste water treatment processing, whenever the processing or disposal occurs within the basin, and shall establish a process to control the disposal of pollutants on land or in subsurface excavations within the basin wherever such disposal causes or may cause violation of water quality standards or wherever such disposal materially affects ground water quality.

§ 131.308 Revisions to water quality standards.

(a) Each basin plan shall set forth the water quality standards and/or recommendations for revision of water quality standards, including the antidegradation statement, applicable to each body of water or segment in the basin, or shall include the legal citation of such standards.

(b) Recommendations for revisions of standards shall consider the objectives of the Act, as specified in section 101(a) of the Act, and the social, economic and technical, including natural, considerations for achieving these objectives.

(c) Each basin plan shall be revised as necessary to reflect revisions of the applicable water quality standards.

§ 131.309 Identification of relationship to other plans.

(a) Each basin plan shall evaluate the need for and recommend the planning area for future section 201 facilities plans or section 208 areawide wastewater management plans involving all or any part of the basin, and establish the strategy for the planning area, including waste load allocations and target abatement dates for significant dischargers included.

(b) Each basin plan shall identify the relationship, indicate the current status, and describe the extent of complementary influence of any other water quality or other applicable resource plan prepared or under preparation which involves all or any part of the basin, including:

(1) Each designated areawide waste treatment management plan under section 208 of the Act;

(2) Each facility plan for a proposed project for the construction of treatment works under section 201 of the Act;

(3) Each Level B basin plan pursuant to section 209 of the Act or Pub. L. 89-90; and

(4) Other applicable resource planning including:

(i) State land use programs.

(ii) Activities stemming from the Coastal Zone Management Act (Pub. L. 92-583).

(iii) Activities stemming from the Rural Development Act of 1972 (Pub. L. 92-419).

(iv) Other Federally assisted planning and management programs.

(c) Areawide and facilities plans, when approved by the States, shall modify applicable portions of a basin plan with respect to:

(1) number and location of discharges, provided that the total waste load allocated to the facilities or areawide plan area by the basin plan is not exceeded;

(2) schedules of compliance or target abatement dates; and

(3) the assessment of facilities needs.

(d) Each basin plan shall identify separately each plan which has been integrated with the basin plan.

§ 131.310 Coordination of certain planning elements and terms of permits.

(a)(1) The States and EPA will use their best efforts to establish permit terms and conditions consistent with the applicable individual target effluent limitations and target abatement dates established in any approved basin plan; subject, however, to all the rights that the permit applicant and other interested persons may have under State or Federal law to contest such target effluent limitations and target abatement dates in permit issuance proceedings.

(2) The major milestones required to track basin plan implementation contained in each schedule of compliance for significant dischargers established by a permit shall be incorporated into the basin plan at the first revision of the basin plan which takes place following issuance of the permit.

(b) In a planning area where a basin plan is under development, permit terms and conditions proposed for any source and basin plan preparation shall be coordinated to assure that the basin plan reflects information developed in connection with the permit application and conditions for effluent limitations and a schedule of compliance proposed for the permit.

Subpart D—Monitoring and Surveillance

§ 131.400 Relationship of monitoring and surveillance program to basin plans.

(a) Each basin plan shall be based upon the best available monitoring and surveillance data, as set forth in this subpart, to determine the relationship between instream water quality and individual sources of pollutants and, where practicable, to determine the relationship between land disposal and ground water quality. Such data will facilitate implementation of the basin plan.

(b) Each basin plan shall contain for each Water Quality segment:

(1) A program to monitor the total stream pollutant loadings, including contributions for significant parameters from significant dischargers, which shall be related to the total maximum daily loads established by the basin plan pursuant to § 131.304; and

(2) A continuing program for monitoring in-stream water quality.

(c) In areas where a State determines that a ground water contamination problem exists or may exist from the disposal of pollutants on land, in subsurface excavations or deep wells, the State, to support the establishment of controls or procedures to abate such pollution as identified in § 131.307 shall conduct or require to be conducted by the disposing person or agency a monitoring survey or continuing program of monitoring to determine present or potential effects of such disposal, where such disposal is not prohibited.

(d) Additional description of the State monitoring program is set forth in Subpart B of Part 35 of this title.

§ 131.401 Coverage of monitoring and surveillance program.

In establishing the monitoring and surveillance program for discrete water segments, consideration shall be given to the severity of the pollution and applicable water quality standards and goals, including the use to be made of the waters.

§ 131.402 Use of monitoring surveys for basin plan development.

Each basin plan shall incorporate the results of any monitoring survey completed prior to the date of adoption of the basin plan which provides current data for the area covered by the basin plan. If current data are not available, the State should conduct an adequate monitoring survey to obtain the necessary data before completion of the basin plan.

§ 131.403 Frequency of monitoring surveys.

Each basin plan shall provide that a monitoring survey for the area within Water Quality segments covered by the basin plan will be repeated at appropriately defined intervals, depending on the variability of conditions and changes in hydrologic or effluent regimes. The survey intervals shall be stated in the basin plan.

§ 131.404 Output of monitoring surveys.

The monitoring survey shall produce sufficient information to support the planning for the area. Output shall include, but is not limited to, the following:

(a) A listing of all surface waters, by stream segment or water zone, which do not comply with applicable water quality standards.

(b) In Water Quality segments, a description of pollutant mass balances, including estimates of the total pollutant loads to be controlled in the segment.

(c) Input to the EPA water quality information system of basic data collected during the monitoring survey, and validation and correction of data available prior to the survey.

(d) A listing of stations, parameters, and frequencies to be monitored to provide compliance, progress measurement, and trend information required by this chapter.

(e) A proposed schedule, based on variability of stream quality, expected changes in flow and effluent regimes, or other information, for the subsequent monitoring survey to be undertaken in the same basin.

§ 131.405 Water quality data from fixed stations; input to EPA information system.

(a) Each basin plan may provide for the maintenance of a small number of permanent in-stream water quality trend evaluation stations at key locations in each basin to measure progress toward applicable water quality standards and goals, trends in water quality, and compliance with approved basin plans, and where provided, shall be used as a basis for completing the reports required by 305(b) of the Act.

(b) The operation of these stations shall continue after the completion of applicable monitoring surveys required by this subpart.

(c) The State shall input data from such stations to the EPA information system in such manner as the State and the Regional Administrator shall agree.

Subpart E—Completion and Review of Basin Plans; Relation of Permits and Grants

§ 131.500 Basin plan adoption.

Basin plans shall be officially adopted, after appropriate public participation as described in § 131.502 as the official water quality management plans of the State. Background data not required to be included in the basin plans need not be adopted, but should be made available upon request.

§ 131.501 Certification.

Each basin plan shall include assurances and a certification by the Governor or his designee, that the plan is the official State water quality management plan for the hydrologic unit covered by such plan, that the plan meets all applicable requirements of this Part 131 and Part 130 of this chapter and that the plan will be used for establishing permit conditions, target abatement dates and assessing priorities for awarding construction grants.

§ 131.502 Public participation.

(a) There shall be conducted, prior to the adoption or any substantive revision of the basin plan and after reasonable notice thereof, one or more public hearings on the proposed basin plan or on parts of the basin plan, in accordance with EPA regulations promulgated pursuant to section 101(e) of the Act.

(b) For purposes of this section:

(1) The term "public hearing" refers to a hearing in which three basic elements of public participation are present: Total public disclosure; planning agency representation; and sufficient opportunity for expression of views by the public. For the purposes of this section, a public hearing need not be an adjudicatory hearing. Further explanation of the public hearing process is contained in Part 105 of this chapter.

(2) The term "substantive" includes but is not limited to any significant revision of water quality standards, total maximum daily loads for Water Quality segments, load allocations for individual dischargers, effluent limitations, schedules of compliance, or target abatement dates.

(3) "Reasonable notice" includes, at least 30 days prior to the date of each hearing:

(i) Notice to the public by prominent advertisement announcing the date, time, and place of such hearing and the availability of the proposed basin plan for public inspection; and

(ii) Notification to the Regional Administrator.

(c) There shall be prepared and retained for submission to the Regional Administrator upon his request a record of each hearing. The record shall contain, at a minimum, a list of witnesses together with the text of each written presentation.

(d) There shall be submitted with the basin plan a description of any major controversy raised by the hearing and the disposition thereof.

(e) The number and location of hearings shall reflect the size of the planning area and its population and population distribution. Public participation and contribution shall be encouraged, commencing with the earliest possible stages of basin plan development and continuing throughout the period of the basin plan preparation, including revisions thereof. The State may conduct its public hearing on the basin plan simultaneously with public hearings on permits in the area covered by the basin plan or in conjunction with any other public hearing involving the significant revision of water quality standards, total maximum daily loads, load allocations, effluent limitations or schedules of compliance. If a public hearing was conducted on a segment of the basin plan for the purpose of the issuance of permits or significantly revising water quality standards, total maximum daily loads, load allocations, effluent limitations, or schedules of compliance, then this portion of the basin plan need not be subject to additional public hearings.

§ 131.503 Submission of basin plans.

Basin plan submission shall be accomplished by delivering five copies of the adopted portions of the basin plan to the Regional Administrator, together with a letter from the Governor, or his designee, notifying the Regional Administrator of such action.

§ 131.504 Review and approval or disapproval of basin plans.

The Regional Administrator shall approve or disapprove the basin plan submitted pursuant to § 131.503 within 30 days after the date of submission as follows:

(a) If the Regional Administrator determines that the basin plan conforms with the requirements of the Act, this part, the continuing planning process and contiguous plans including neighboring States' plans, he shall notify the Governor or his designee by letter.

(b) If the Regional Administrator determines that the basin plan fails to process or contiguous plans including Act, this part, the continuing planning conform with the requirements of the those of neighboring states, he shall notify the Governor or his designee by letter and shall state:

(1) The specific revisions necessary to obtain approval of the basin plan; and

(2) The time period for resubmission of the basin plan.

(c) Where basin plans involving interstate waters are found to be incompatible, the Regional Administrator shall notify the Governor of each concerned State of the specific areas of incompatibility.

§ 131.505 Revision of basin plans.

(a) At a minimum, the State shall revise each basin plan within five years of the last approval date. The basin plan shall be revised such that it remains a meaningful water quality management document for the five-year period following the revisions. Revisions on a more frequent basis should be made where significant changes occur within the basin. Revisions shall include, but not be limited to, the most current and realistic information on compliance schedules or target abatement dates, construction grant needs and priorities, and waste load allocations. In addition, the basin plan shall be revised such that its increase in scope is in accordance with § 131.203.

(b) Revisions of the basin plan shall be adopted after reasonable notice and public hearings as prescribed in § 131.502.

(c) Revisions shall be submitted in accordance with § 131.503.

(d) Review and approval or disapproval of basin plan revisions shall be carried out in accordance with § 131.504.

§ 131.506 Prohibition of approval of certain basin plans; withdrawal of process approval.

The Regional Administrator shall not approve any basin plan that does not conform with the appropriate require-

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munis of section 208(c), 208(b)(2)(F)-(K), 208(d), and 314(a) of the Act, the continuing planning process, and this part. Substantial failure of any basin plan to conform with the applicable requirements of section 208(c) of the Act and of this part may indicate that the planning process by which such basin plan was developed was deficient and may result in withdrawal of approval of the planning process, or portions thereof, relating to such basin plan. Approval of the State's participation in the National Pollutant Discharge Elimination System may be withdrawn if the process is not fully approved.

§ 131.307 Prohibition of certain construction grants.

Before approving a grant for any project for any treatment works under section 201(g) of the Act, the Regional Administrator shall determine, pursuant to § 35.925-2 of this chapter, that such works are in conformity with any applicable basin plan approved in accordance with this part and Part 130 of this chapter. Disapproval by the Regional Administrator of a basin plan, or relevant portion thereof, for the area where a project is to be located may constitute grounds for not approving a grant for such project, if the disapproval of the basin plan, or relevant portion thereof, is directly related to the project.

§ 131.308 Discharge permit terms and conditions.

Each permit issued under the National Pollutant Discharge Elimination System to any source covered by the basin plan shall be prepared in accordance with the basin plan, as provided in § 131.310. Failure of any permit to conform with the requirements of this section may constitute grounds for the Regional Administrator or the Administrator to object to the issuance of such permit.

§ 131.309 Separability.

If any provision of this part, or the application of any provision of this part to any person or circumstance, is held invalid, the application of such provision to other persons or circumstances, and the remainder of this part, shall not be affected thereby.

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Title 40—Protection of Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

PART 35—STATE AND LOCAL ASSISTANCE

Interim Regulations

Interim regulations are hereby promulgated to publish a new codification of the portions of 40 CFR Part 35, State and Local assistance grant regulations which pertain to water pollution control program grant awards. These interim regulations supplement the Environmental Protection Agency general grant regulations (40 CFR Part 30). They provide minimum guidelines for Federal grant assistance to the States and interstate agencies to assist them in administering their water pollution control programs.

Section 106 of the Federal Water Pollution Control Act, as amended (P.L. 92-500; 86 Stat. 816; 33 U.S.C. 1256 (1972)), authorizes the Administrator of the Environmental Protection Agency to make annual allotments from sums appropriated by Congress in each fiscal year on the basis of the extent of the pollution problem in the several States. The Act requires that the Administrator promulgate regulations governing such allotments.

These regulations describe the annual State program for the control and abatement of water pollution and for the allocation of Federal grant assistance to support these State programs. The program should be viewed as one part of an overall management system to be used by the States, interstate agencies, and

EPA in carrying out the requirements of the Federal Water Pollution Control Act Amendments of 1972. The system begins with the establishment of the continuing planning process described in Part 130 of this chapter. The process is designed to provide States with the basis for developing a "State Strategy" which contains as assessment of their pollution problems, a means for developing their control strategies, and for assessing results. The State strategy, which will be based upon basin plans where they are completed and upon available information where the plans are not completed, together with other associated outputs, provide the basis for developing each State's annual program.

The program is the management device which the State uses to establish what it will accomplish during the year, allocate its resources, and assess its progress toward those accomplishments. At the same time, the State program provides EPA the basis for providing Federal grants to supplement State funds; to include providing funds for program activity at the State level in developing and implementing waste treatment management plans.

Finally the regulations describe the mechanism by which reports are produced and submitted, and by which State efforts are evaluated to determine the compliance milestones achieved, effluent reductions achieved, the extent to which water quality has improved, program status, and resource allocation and use.

Interested parties are encouraged to submit written comments, suggestions, views, or data concerning the interim regulations promulgated hereby to: Director, Grants Administration Division, Environmental Protection Agency, Washington, D.C. 20460. All such submissions received on or before August 13, 1973 will be considered prior to the promulgation of final regulations.

Effective date. The interim water program regulations promulgated hereby shall become effective on June 29, 1973. All Environmental Protection Agency water program grants awarded after June 30, 1973, pursuant to Public Law 92-500 shall be subject to these regulations. It is necessary that these regulations take effect prior to a thirty day period following promulgation to insure their implementation without delay at the beginning of the next fiscal year and to permit States to submit applications for program grants from funds available during the next fiscal year in accordance with the new procedures established pursuant to these regulations. Prior regulations (37 FR 11655, 11658-60) governing water program grants shall remain applicable to grants awarded from funds appropriated for the fiscal year ending June 30, 1973. Prior regulations (37 FR 11655-58) governing the award of air program grants remain in effect.

Dated: June 27, 1973.

ROBERT W. FRI,
Acting Administrator.

In Subpart B of 40 CFR Part 35, the following sections are revised as set forth below, pursuant to the authorities cited in 40 CFR 30.106.

§ 35.100 Purpose.

This subpart, which establishes and codifies policy and procedures for air and water pollution control program assistance grants, supplements the EPA general grant regulations and procedures (Part 30 of this chapter) and is applicable to air and water program grants. These grants are intended to aid programs for the prevention and control of air or water pollution at the State, interstate or local level.

§ 35.100-2 Water pollution control program grant awards.

Grants may be awarded to State and interstate water pollution control agencies to assist them in developing or administering programs for the prevention reduction, and elimination of water pollution, including enforcement directly or through appropriate State law enforcement officers or agencies.

§ 35.101 Authority.

This subpart is issued under sections 105, 106 and 301(a) of the Clean Air Act, as amended (42 U.S.C. 1857c, 1857c-1, and 1857g) and section 106 and 501 of the Federal Water Pollution Control Act Amendments of 1972 (33 U.S.C. 1256 and 1361).

§ 35.105 Criteria for evaluation of program objectives.

(a) Programs set out in the application and submitted in accordance with these regulations shall be evaluated in writing by the Regional Administrator to determine:

(1) Consistency and compatibility of goals and expected results with national strategies in implementing the purpose and policies of the Clean Air Act and the Federal Water Pollution Control Act, as amended.

(2) Feasibility of achieving goals and expected results in relation to existing problems, past performance, program authority, organization, resources and procedures.

(b) Approval of the program developed pursuant to § 35.525 (air) or § 35.554 (water) shall be based on the extent to which the applicant's program satisfies the above criteria.

§ 35.110 Evaluation of program performance.

(a) Program performance evaluations shall be conducted at least annually by the appropriate Regional Administrator and the grantee to provide a basis for measuring progress toward achieving approved program objectives or milestones described in the program. The evaluation shall address the objectives, responsibilities, major functions, and other related activities set forth in the grantees' approved program. For air program grants, the evaluation shall be completed not later than 120 days before the beginning of the new budget period.

(b) The Regional Administrator shall prepare a summary of the joint evaluation findings. The grantee shall be allowed 15 working days from date of receipt to concur with or comment on the findings.

§ 35.115 Report of project expenditures.

Within 90 days after the end of each budget period, the grantee must submit to the Regional Administrator an annual report of all expenditures (Federal and non-Federal) which accrued during the budget period. Beginning in the second quarter of any succeeding budget period, grant payments may be withheld pursuant to § 30.602-1 of this chapter until this report is received.

§ 35.120 Payment.

Grant payments may be made in advance, however payments will be made in a manner so as to minimize the time elapsed between receipt of grant funds by the grantee and disbursement by him. Notwithstanding the provisions of § 30.305 of this chapter the first grant payment subsequent to grant award shall include reimbursement for all allowable costs incurred from the beginning of the approved budget period, provided that monthly costs incurred from the beginning of the budget period to the date of grant award may not exceed the level of cost incurred in the last month of the prior budget period.

§ 35.331 Scope and purpose.

This subpart establishes regulations and procedures by which program grant funds may be provided to the States and interstate agencies as authorized by section 106 of the Federal Water Pollution Control Act Amendments of 1972 (PL 92-500; 86 Stat. 816; 33 U.S.C. 1256). These regulations are intended to foster development of State programs which implement PL 92-500.

§ 35.332 Definitions.

As used herein, the following words and terms shall have the meaning set forth below:

§ 35.332-1 Allotment.

The sum reserved for each State or interstate agency from funds appropriated by Congress. The allotment is determined by formula based on the extent of the water pollution problem in the several States. It represents the maximum amount of money potentially available to the State for its program grant.

§ 35.332-2 State program grant.

The amount of Federal assistance awarded to a State to assist in administering programs for the prevention, reduction, and elimination of water pollution.

§ 35.332-3 State program.

The annual submissions including revisions, which describe the State's commitments to control water pollution in conformance with § 35.555.

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§ 35.532–4 Number of pollution sources.

A count of the sources of discharge associated with any:

(a) One of the twenty-seven Standard Industrial classification (SIC) codes listed in section 306(b)(1)(A) of the Act (the number of establishments are reported in the latest edition of "Census of Manufacturers," U.S. Department of Commerce);

(b) Municipality (as reported in the EPA Municipal Waste Facilities Directory, dated April 6, 1972);

(c) Power plant (Nuclear, oil, coal or gas) (as reported in "STEAM ELECTRIC PLANT FACTORS," NATIONAL COAL ASSOCIATION, 1971 edition);

(d) Feedlot (of more than 1000 head capacity) (as reported in "CATTLE ON FEED," U.S. Department of Agriculture, January, 1972).

Revisions to the above references will be used to recompute the allocation if available prior to the beginning of each fiscal year.

§ 35.532–5 State agency.

The agency designated by the Governor to apply for and receive the State's program grant and responsible for coordinating the water quality control program or primarily responsible for coordinating the State water quality laws.

§ 35.532–6 Interstate agency.

Any agency defined in section 502(2) of the Act which is determined eligible for receipt of a grant under these regulations by the Administrator.

§ 35.532–7 Reasonable cost.

The allowable and allocable costs, up to the level of the annual allocation as determined by the Administrator, of developing and administering a pollution control program by a State or interstate agency consistent with the intent and purposes of the Act.

§ 35.532–8 Interstate segment.

That portion of the area of responsibility of an interstate agency which lies entirely within the borders of a single State.

§ 35.532–9 Recurrent expenditures.

Those expenditures which are identified as being acceptable as recurrent expenditures under generally accepted accounting principles and approved by the Regional Administrator.

§ 35.533 Annual guidance.

EPA will develop and disseminate annual guidance to be used by the States to structure their program for the coming year. The guidance will contain a statement of the national strategy including national objectives and national priorities for the year together with planning figures for Federal program grant assistance based on the EPA budget approved by the President. The guidance will be disseminated within thirty days after the President delivers his budget to Congress.

§ 35.534 State strategy formulation and program development.

§ 35.534–1 State strategy formulation.

Based on (a) current water quality, (b) evaluation of program achievements to date, (c) State plans developed pursuant to Section 303(e) of the Act, and (d) the annual EPA guidance, each State shall prepare an annual State strategy statement. The strategy shall contain:

(1) A statewide assessment of water quality problems and the causes of these problems;

(2) A listing of the geographical and discharger priorities relative to these problems;

(3) A listing of the priorities and scheduling of permits, construction grants, basin plans, and other appropriate program actions including a description of how the strategy has been developed in concert with non-point source control.

§ 35.534–2 State program development.

Each State shall develop, in consultation with the Regional Administrator, a program based on its strategy pursuant to § 35.534–1 (to include defining regional resource support). The essence of the program is relating resources—both Federal and non-Federal—to achieve the expected outputs. Program outputs are then adjusted to conform to resource constraints. To the extent feasible, each State program shall include consideration of efforts in the areas of non-point source control and abatement, and supporting land use control practices. The program shall describe how each major program element fits with the strategy and shall indicate:

(a) the expected outputs to be obtained pursuant to § 35.534–3(b);

(b) the resources to be expended by the State to produce the expected outputs, including anticipated Federal financial and technical assistance; and

(c) an analysis of the previous year's effort. Information on each program element shall be presented in summary form aggregated at the State level.

§ 35.534–3 Major program elements and outputs.

(a) The major program elements are:

(1) Municipal facilities construction, operation, and maintenance

(2) Permits

(3) Planning (to include water quality standards)

(4) Monitoring

(5) Enforcement

(6) Training

(7) Administration

(b) State outputs. Each major program element shall identify the specific outputs to be produced by that activity during the year. Additional program elements and their associated outputs may be addressed in the annual program as deemed appropriate by the State or the Regional Administrator. The major program outputs may include but are not limited to:

(1) *Municipal Facilities Construction, Operation, & Maintenance.* A description of the State priority system, including the criteria used by the State in determining priority of treatment works, and an identification of projects to receive grants for facility planning (step 1), engineering design and specifications (step 2), and construction of facilities (step 3) submitted for approval pursuant to § 35.915 of this chapter.

(i) In determining which projects to fund, the State shall consider the severity of pollution problems, the population affected, the need for preservation of high quality waters, and the national priorities as determined by the Administrator (normally contained in the annual EPA guidance).

(ii) The projects to be funded should be consistent with but need not rigidly follow the ranking of discharges in the municipal discharge inventory developed pursuant to § 130.43 of this chapter; however, projects should be concentrated in the high priority areas.

(iii) Adequate justification must be provided for those projects to be funded which are located in low priority areas (e.g. court orders, critical discharges in low priority segment, etc.).

(iv) The composition of the list of projects to be funded should reflect the guidance contained in the annual EPA guidance.

(v) The list of projects may be revised in accordance with § 35.915.

(2) *Municipal Permits.* Number and identification of municipal permits to be issued by the State for the year covered by the program. The municipal permits to be issued should be determined by the same criteria as described in paragraph (b)(1)(i) of this section.

(3) *Industrial Permits.* Number and identification of industrial permits or permits for other categories to be issued by the State for the year covered by the program. The industrial permits to be issued should be determined by the same criteria as described in paragraph (b)(1)(i) of this section.

(4) *Planning.* Number and identification of plans (by type):

(i) *Basin plans (Section 303(e) of the Act).* The number and priority of plans determined from the schedule for plan preparation developed pursuant to § 130.42 of this chapter and the schedules contained in the strategy developed pursuant to § 35.534–1.

(ii) *Areawide Plans (Section 208 of the Act).* The number and scheduling of areawide management plans pursuant to section 208 of the Act in accordance with the designation criteria set forth in any regulations published to implement section 208.

(iii) *Facility Plans (§ 35.925–1).* The number and priority of facility plans consistent with the priorities contained in the municipal discharge inventory developed pursuant to § 130.43 of this chapter or § 35.915. Required plans are scheduled to permit their completion prior to award of grants for construction (phase 3) projects.

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(5) *Monitoring.* Number and identification of monitoring surveys to be done (by type):

(i) *Basin monitoring surveys.* The number and priorities of these surveys determined in conjunction with the schedule for 303(e) basin plans.

(ii) *Compliance Monitoring.* The extent of compliance monitoring related to the number of permits issued and the State's determination of compliance monitoring required to insure that the permit-reporting system is operating.

(iii) *Permanent in-stream monitoring stations.* The number and location of stations required to prepare the annual State water quality inventory required by section 305(b) of the Act.

(6) *Enforcement.* Number of proceedings on actions initiated prior to the passage of the Act; number of enforcement actions to be undertaken, continued, or completed against violators of permit conditions and implementation schedules; and, identification and brief discussion of major actions and proceedings.

(7) *Training.* Number and distribution of waste treatment plant operators to be trained and certified; type of operator training to be received; and, identification of level of training and certification of total operator force.

(8) *Administration.* Identification and description of overall program administration to include major changes to occur during the year.

(c) Section 106(a) of the Act places special emphasis on including enforcement directly or through appropriate State law enforcement officers or agencies as part of the State program. A description of enforcement as a program activity should be included in the State program.

(d) Section 106 of the Act also places special emphasis on monitoring. For the purpose of this regulation, the following brief description of monitoring as a program activity is provided. Further details are set forth in Appendix A to this subpart and § 35.559-6(b)(1).

(1) A minimum monitoring program shall utilize physical, chemical and biological analyses, and shall include:

(i) Intensive surface water monitoring surveys;

(ii) A primary monitoring network;

(iii) Permit compliance monitoring;

(iv) Groundwater quality monitoring;

(v) A means of collecting data for inventories of point and non-point sources of pollution;

(vi) Classification of inland lakes by eutrophic condition;

(vii) Laboratory support and a quality assurance program; and

(viii) A data handling, storage, evaluation and reporting activity.

(2) The State monitoring program shall be carried out in such a manner as to:

(i) Provide support to the Planning Process developed under Part 130 of this chapter;

(ii) Conduct permit compliance monitoring, including spot checks of permitted dischargers, utilizing authorities similar to those provided under Section 308 of the Act and administer the self-monitoring and reporting requirements of the NPDES in States having permit programs approved by the Administrator;

(iii) Provide basic data necessary to update annually the descriptions and analyses required by Section 305(b) of the Act, including specific identification of all State waters suitable for sustaining a balanced population of shellfish, fish and wildlife, and which allow for recreational activities in and on the water;

(iv) Enable the State to describe the extent of their water pollution problem (Section 106(b) of the Act), and to assess the degree of progress in attaining the goals of the Act as required in Section 305(b)(1)(C); and

(v) Define eutrophic status of waters within the State, particularly lakes.

§ 35.555 State program submission.

Each State shall submit to the Regional Administrator:

(a) An initial program by April 15 of each year consisting of (1) the State strategy statement for the coming year (described in § 130.41 of this chapter), which includes its schedule for plan preparation (§ 130.42 of this chapter), its State municipal discharge inventory (§ 130.43 of this chapter), and its State industrial discharge inventory (§ 130.44 of this chapter).

(2) An initial assessment of the outputs which the State estimates it will achieve during the year.

(b) A final program by June 15 of each year. (1) The final program shall be included as part of the grant application, together with such additional information as the Administrator may require. The form and content of the final submission shall be as described in the application narrative, and any additional guidelines which the Administrator may issue from time to time.

(2) The final program shall include an adjustment of State outputs to reflect resource constraints.

(3) Pursuant to the requirements of Office of Management and Budget Circular A-95, the final program shall reflect comments received through the State office with clearing house responsibilities. It shall also present evidence of participation by the agencies responsible for statewide land use planning, or general or comprehensive planning.

§ 35.556 Public participation.

The annual State strategy, priority lists, and proposed outputs shall be the subject of public participation to be completed prior to May 15 of each year. Public hearings must have been held on the list of projects to be funded during the year developed pursuant to § 35.554-3(b)(1), except for the list developed for projects to be funded in FY 74 if time is inadequate to prepare a timely submittal. Results of such participation shall be used as appropriate in preparing the final program submission.

§ 35.557 Program approval.

(a) The Regional Administrator shall act on a State program within thirty days of its receipt, notwithstanding the provisions of § 30.305 of this chapter. Such program shall be approved only if the program satisfies all terms, conditions, and limitations set forth in these regulations, including adequate resources for enforcement directly or through appropriate State law enforcement officers or agencies.

(b) The Regional Administrator may award a grant based on conditional approval of a State program which requires minor changes to qualify for approval. In the event conditional approval is granted, the Regional Administrator shall establish as part of the grant award, a statement of the conditions which must be met to secure final approval and the date by which such conditions shall be met.

§ 35.558 Allocation of funds.

Funds appropriated for each fiscal year will be allocated to States and interstate agencies on the basis of the extent of the pollution problem.

§ 35.558-1 Computation of state allotment ratio.

An allotment ratio will be established for each State.

(a) The initial allotment ratio for FY 1974 will be established according to the ratio of the number of pollution sources in the State compared to the number of pollution sources in the nation.

(b) The initial allotment ratio computed in paragraph (a) of this section will be applied to the first $20 million of sums appropriated to produce a base allocation. The base allocation of any State which falls below the level of its FY 1973 allocation will be restored to the FY 1973 allocation level, using funds from the balance of the appropriation, subject to the availability of funds.

(c) The remainder of the appropriation is then divided among the States in amounts proportional to what was received following the procedure described in § 35.558-1(b). Each State's incentive amount is then subdivided to fund the key program elements identified by the annual EPA guidance.

(d) The State allocation is the sum of its base allocation and all portions of its incentive amount, except that no State may be allocated more than three hundred percent of its FY 1973 grant amount.

§ 35.558-2 Computation of Interstate Allocation.

An amount not less than the FY 1973 level of funding for interstate agencies will be divided among interstate agencies.

§ 35.558-3 Computation of State Allocation.

The table below shows the final allotment ratio for FY 1974 of each State and Interstate after applying the procedures described in § 35.558-1(a)-(d).

FINAL FY 1974 ALLOTMENT RATIO

STATE/ INTERSTATE	ALLOTMENT RATIO
Alabama	.03663
Alaska	.00308
Arizona	.00815
Arkansas	.01478

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State/ Interstate	Allotment ratio	State/ Interstate	Allotment ratio
California	.05890	New Jersey	.02736
Colorado	.00938	New Mexico	.00578
Connecticut	.01532	New York	.05809
Delaware	.00844	North Carolina	.03672
District of Columbia	.00833	North Dakota	.00433
Florida	.02577	Ohio	.03814
Georgia	.03116	Oklahoma	.01107
Hawaii	.00708	Oregon	.01638
Idaho	.00779	Pennsylvania	.04475
Illinois	.03739	Rhode Island	.01044
Indiana	.02095	South Carolina	.01990
Iowa	.01454	South Dakota	.00449
Kansas	.01055	Tennessee	.01807
Kentucky	.01471	Texas	.03694
Louisiana	.01686	Utah	.00615
Maine	.01102	Vermont	.00497
Maryland	.01687	Virginia	.02515
Massachusetts	.02879	Washington	.02141
Michigan	.03578	West Virginia	.01270
Minnesota	.01873	Wisconsin	.02828
Mississippi	.01488	Wyoming	.00327
Missouri	.01763	American Samoa	.00156
Montana	.00686	Virgin Islands	.00733
Nebraska	.01150		
Nevada	.00350		
New Hampshire	.00879		

State/ Interstate	Allotment Ratio
Guam	.00741
Puerto Rico	.01628
Trust Territories	.00337
ORSANCO	.00671
DRBC	.00444
ISC	.00546
INCOPOT	.00285
NEIWPCC	.00449
SRBC	.00163

§ 35.538–1 Notification of funds.

(a) *Tentative allowances.* No later than April 15 of each year, the Administrator will issue to each Regional Administrator a tentative regional allowance for the next fiscal year. This tentative allowance (planning target) will be based on the amount of the appropriation requested for the next fiscal year. The Regional Administrator shall notify each State and interstate agency of its tentative allotment for the next fiscal year.

(b) *Final allowances.* As soon as practicable after funds are made available, the Administrator will issue to each Regional Administrator a final regional allowance for State and interstate allotments from the funds appropriated for each fiscal year.

(c) *Reallotment.* On October 15 of each year, or as soon thereafter as practicable, the Administrator will issue to each Regional Administrator an allowance derived from reallocation for prior year funds or unused portions of current year funds.

(d) *Computation of Regional allowances.* Tentative or final regional allowances will be the sum of the tentative or final State and interstate allotments with each EPA region.

§ 35.539 Grant amount.

§ 35.539–1 Computation of maximum grant.

(a) *Maximum base grant amount.* Each State shall receive a maximum base grant equal at least to its total grant for FY 73, subject to the availability of funds.

(b) *Maximum incentive grant amount.* Each State shall receive a maximum incentive grant equal to the amount of the allotment, computed in accordance with § 35.558–3, less the maximum base grant computed in paragraph (a) of this section. Each State's incentive amount is divided into amounts to fund the key program elements identified by the annual EPA guidance.

§ 35.539–2 Determination.

Each State and interstate agency shall receive a grant from its final allotment in an amount not to exceed the reasonable cost of carrying out its approved annual program including the cost of enforcement directly or through appropriate State law enforcement officers or agencies.

(a) From the maximum grant amount reserved for each State, grants shall be approved by the Regional Administrator in amounts to be determined by him to fund the base program and the key program functions identified by the EPA annual guidance as being of particular importance to a sound water pollution control program.

(b) The Regional Administrator shall use the initial resource distribution set forth in the maximum grant structure determined for each State (i.e. base amount plus incentive amounts) as the initial basis for approving a grant.

(1) Should a State elect not to operate a permit program under the National Pollution Discharge Elimination System (NPDES—Part 124 of this chapter), the Regional Administrator shall not approve any portion of the funds for the State within that program element. Funds recovered by these procedures will remain within the Region to be available for reallotment to States as the Regional Administrator may direct.

(2) Should a State propose a different funding mix to produce a set of outputs in the annual program, the Regional Administrator may approve the different mix, provided he believes the outputs can be produced. However, if a State fails substantially to produce the outputs to which it was committed in its program, the Regional Administrator may recover the program costs of such outputs up to the amount originally proposed for the particular program element. Recovery may be by reduction of remaining grant payments, reduction of the following year's grant, or by request for repayment. Funds recovered by these procedures will remain within the Region to be available for reallotment to States as the Regional Administrator may direct.

(3) Should a State submit an approvable program and a funding strategy consistent with the mix reflected in the State's maximum grant, the Regional Administrator shall authorize the award of a grant in the amount applied for, consistent with its program developed pursuant to § 35.554–2.

(4) Should the Regional Administrator's evaluation of the State program submission reveal that the output commitment is not consistent with the level of funding requested, he shall negotiate with the State either to increase the output commitment or to reduce the grant amount. Funds freed by this procedure will remain within the region to be available for reallotment to State agencies as the Regional Administrator may direct.

(5) At the end of each program year, unobligated funds will revert to headquarters for reallotment in accordance with § 35.558–4(c).

§ 35.539–3 Reduction of grant amount.

(a) The grantee must submit a complete application on or before June 15, preceding the fiscal year for which the program application is prepared. If the State or interstate agency does not meet this deadline, the grant amount shall be reduced one-sixth of the first six months' available allotment for each full month's delay. This money will be available for reallotment on a national basis.

(b) If the Regional Administrator's program evaluation reveals that the grantee will fail or has failed to achieve outputs programmed (see § 35.554–3), the grant amount may be reduced by the approved estimated program cost to produce such outputs. This money will be available for reallotment to State's within the region.

§ 35.539–4 Grant amount limit and duration.

Following approval of the program the budget period of the grant shall be the entire fiscal year and Federal assistance shall not exceed the allotment limits specified in § 35.448–2 plus reallotments under § 35.538–4(c), § 35.559–2(b) and § 35.559–3(b).

§ 35.539–5 Eligibility.

A grant may be awarded to a State or interstate water pollution control agency which has submitted an application meeting the program requirements of these regulations provided however, that such program has been approved by the appropriate Regional Administrator.

§ 35.539–6 Limitation of award.

(a) No grant shall be made under these regulations to any State or interstate agency for any fiscal year unless the State has certified that the expenditures of non-Federal funds by such State or interstate agency during such fiscal year for the recurrent expenses of carrying out its pollution control program are not less than the expenditures by such State or interstate agency of non-Federal funds for recurrent program expenses during the fiscal year ending June 30, 1971, or the first year of Federal support if such Federal support was initiated subsequent to the fiscal year ending June 30, 1971.

(b) No grant shall be made under these regulations to any State, beginning in fiscal year 1974, which has not provided or is not carrying out as part of its program:

(1) The establishment and operation of appropriate devices, methods, systems, and procedures necessary to

monitor, and to compile and analyze data on (including classification according to eutrophic condition), the quality of navigable waters and to the extent practicable, ground waters including biological monitoring; and provisions for annually updating such data and including it in the report required under Section 305 of the Act. Guidelines are set forth in § 35.554-3 and Appendix A.

(2) Authority comparable to that in Section 504 of the Act, "Emergency Powers," and adequate contingency plans to implement such authority.

(3) The criteria used by the State in determining priorities for municipal construction projects as provided in § 35.915, and for issuance of permits as provided in Part 124 of this chapter.

(4) A provision that such agency shall provide information concerning its program in the form and content that the Regional Administrator may require.

§ 35.559-7 Grant conditions.

In addition to the EPA General Grant Conditions (Appendix A to Subchapter B of this chapter and Part 30, Subpart C, of this chapter) each grant for water pollution control programs shall be subject to the following conditions:

(a) The Regional Administrator may terminate a grant awarded under this subpart pursuant to § 30.903 of this chapter where a Federally assumed enforcement as defined in section 309(a) (2) of the Act is in effect with respect to such State or interstate agency.

(b) The Regional Administrator may terminate a grant awarded under this subpart pursuant to § 30.903 of this chapter where the Administartor has not approved or has revoked approval of the continuing planning process developed under section 303(e) of the Act and any regulation issued by the Administrator thereunder.

§ 35.560 Program evaluation and reporting.

§ 35.560-1 Evaluation.

Program evaluation is primarily a State responsibility and should be done continuously throughout the program year. It is EPA policy to limit evaluation to that which is necessary for responsible management of the national effort to control water pollution. Therefore, joint Federal/State evaluations will be decentralized to the regional level. Each Regional Administrator shall review State programs at least twice each year:

(a) Mid-year evaluation: By January 31 of each year, the Regional Administrator shall conduct a joint on-site evaluation meeting with appropriate State officials to review and evaluate the program accomplishments of the current budget period in accordance with § 35.410 of this Subpart. The Regional Administrator shall report to the Administrator the results of each meeting within thirty working days, together with comments from the State.

(b) End-of-Year-Review: Within thirty days of receipt of the final State program submission and grant application, the Regional Administrator shall review the accomplishments of the program year which is concluded and the accomplishments projected for the coming year, as stated in the submission. His review shall include (but is not limited to):

(1) Effluent reductions achieved
(2) Improvement in ambient water quality
(3) Compliance milestones achieved
(4) Program status
(5) Resource allocation and use

This review is essential to program approval pursuant to § 35.557.

§ 35.560-2 Reports.

The Regional Administrator may modify requirements pertaining to the content or submission schedule of information submissions required by this part.

§§ 35.565, 35.575 [Revoked]

Sections 35.565 and 35.575 are revoked.

APPENDIX A. WATER QUALITY MONITORING—[RESERVED]

APPENDIX B. PROGRAM REPORTING [RESERVED]

[FR Doc.73-13329 Filed 6-28-73;8:45 am]

V.

PERMITS (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM) AND WATER QUALITY MONITORING REGULATIONS

V.1

FRIDAY, DECEMBER 22, 1972
WASHINGTON, D.C.

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ENVIRONMENTAL PROTECTION AGENCY

■

State Program Elements Necessary for Participation in the National Pollutant Discharge Elimination System

232-c

Title 40—PROTECTION OF ENVIRONMENT

Chapter I—Environmental Protection Agency

PART 124—STATE PROGRAM ELEMENTS NECESSARY FOR PARTICIPATION IN THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

Notice was published in the FEDERAL REGISTER issue of November 11, 1972 (37 F.R. 24067) that the Environmental Protection Agency was giving consideration to proposed guidelines for State program elements necessary for participation in the National Pollutant Discharge Elimination System. The proposed guidelines described, pursuant to the authority contained in section 304(h)(2) of the Federal Water Pollution Control Act Amendments of 1972 (86 Stat. 816; 33 U.S.C. 1314 (1972)) (hereinafter referred to as the "Act"), the minimum procedural and other elements of any State programs under section 402 of the Act.

Section 402 of the Act creates a National Pollutant Discharge Elimination System under which the Administrator of the Environmental Protection Agency may, after opportunity for public hearing, issue permits for the discharge of any pollutant or combination of pollutants, upon condition that such discharge will meet all applicable requirements of the Act relating to effluent limitations, water quality standards and implementation plans, new source performance standards, toxic and pretreatment effluent standards, inspection, monitoring and entry provisions, and guidelines establishing ocean discharge criteria. Section 402 also provides that States desiring to administer their own permit programs may submit a full and complete description of such a program to the Administrator for approval. The Administrator is to approve a State's program, and suspend issuance of permits under section 402, unless he determines that the State does not possess adequate authority to perform certain acts detailed in section 402(b) of the Act. In general terms, the State must have authority to: (a) Issue permits for terms not exceeding 5 years upon the same conditions relating to effluent limitations and water quality standards as are applicable to permits issued by the Administrator; (b) adequately notify members of the public, other States, and the Secretary of the Army of pending permit applications; (c) abate violations of permits, including civil and criminal penalties; (d) insure that the State permitting agency receive adequate notice of new introductions or substantial changes in the volume or character of pollutants introduced into publicly owned treatment works; and (e) insure that any industrial user of publicly owned treatment works complies with pretreatment effluent standards and other requirements. The State also must have an approved continuing planning process under section 303(e) of the Act before approval of its permit program can be granted.

In addition to these requirements, a State permit program cannot be approved unless it conforms to guidelines issued under section 304(h)(2) of the Act prescribing minimum procedural and other elements of any State program under section 402. These guidelines, which are the subject of this notice, must include, but are not limited to, monitoring and reporting requirements (including procedures to make information available to the public), enforcement provisions, and requirements for funding, personnel qualifications, and manpower.

Written comments on the proposed guidelines were invited and received from interested parties. A number of verbal comments also were received. The Environmental Protection Agency has carefully considered all submitted comments. All written comments are on file with the Agency. Certain of these comments have been adopted or substantially satisfied by editorial changes, deletions from, or additions to the guidelines. These and other principal comments are discussed below.

1. Several commenters pointed out the need to make clear that participating States and interstate agencies should have all procedures required by the guidelines established by the State or interstate agency in the form of duly promulgated regulations. The delays inherent in the process of promulgating such regulations, however, should not delay the Administrator's approval of an otherwise acceptable program. To implement these concerns, a new § 124.3 has been added to subpart A to make clear that all authorities required by section 402(b) of the Act must be in the form of State statutes and regulations and must be in full force and effect at the time of submission of the State program. A new § 124.4 requires that the procedures required by the guidelines must also be in the form of State statutes and regulations but, if the State has the necessary authority and submits a program which meets the requirement of the guidelines, the State has until January 1, 1974, to promulgate such regulations.

2. Numerous comments suggested means to improve the requirements for signing NPDES forms. On the basis of the comments, corporate signature requirements have been changed to permit signature by authorized representatives of principal executive officers where such representative is responsible for the operation of the discharging facility. See § 124.24(a). Also, the language in subsection (d) is broadened to cover categories of point sources other than publicly owned treatment works.

3. On the basis of comments received and after consulting with the States involved in the development of these guidelines, a new paragraph was added to § 124.31 to require the compilation of draft determinations and conditions into a draft permit. Such draft permit is to be made available to the public for inspection and copying.

4. Comments received indicated disagreement between citizens and States as to the proper length of the period for public comment following public notice. It was decided not to require the extension of the period for public comment beyond 30 days but to allow the Director to extend such period where, in his discretion, he finds such extension is desirable. See § 124.32(b). To save time, however, citizens may now be placed on a mailing list to receive copies of fact sheets without the necessity of requesting such fact sheets following public notice. In these cases where fact sheets are prepared, the fact sheet can be sent at the same time public notice is mailed. See § 124.33(b).

5. Comments from States advised against the requirement to prepare a fact sheet for every application for a permit. Section 124.33 has been modified to require the preparation of fact sheets only for those discharges which exceed 500,000 gallons on any day of the year. The preparation and distribution of fact sheets is thus limited to the larger and more controversial discharges. An informal survey in one of the EPA regions indicates that approximately 35 percent of the applications received were for discharges in excess of 500,000 gallons. The Director may, of course, prepare fact sheets for smaller discharges.

6. Many commenters pointed out the discrepancy between § 124.35 regarding the handling of confidential information and EPA's regulations for such data, 40 CFR Part 2. Section 124.35(b) has been modified to require the Director to protect information (other than effluent data) shown to constitute trade secrets. Where the determination of confidentiality by the Director is with regard to information contained in an NPDES form and the Regional Administrator disagrees with such determination, procedures consonant with 40 CFR Part 2 apply. See § 124.35(b).

7. Comments from industry and from environmental groups pointed out the need for further clarification of public hearing requirements. Almost all such suggestions have been incorporated, including a requirement, submitted from environmental groups, that the Director is required to hold a hearing in every case where there is significant public interest (including, of course, the filing of requests or petitions for such hearing). Any instances of doubt should be resolved in favor of holding the hearing. See § 124.36.

8. Much concern has been expressed over the setting of permit schedules of compliance and their enforcement. To achieve some degree of uniformity and to assist the preparation of compliance schedule reports, the Director is now required, to the extent practicable, to set schedules of compliance so that interim and final dates fall due on the last day of the months of March, June, Septem-

ber, and December. Four times a year the Director shall prepare and transmit to the Regional Administrator a list of all instances of noncompliance with the schedule requirements in a permit. Such list shall be available to the public for inspection and copying. See § 124.44.

In cases where good and valid cause (such as an act of God, strike, flood, etc.) lies for the failure of the permittee to comply with a schedule of compliance, revision of the permit may be appropriate. Any such revision must be approved by the Regional Administrator and all such revisions must be reported by the Director in his quarterly compliance schedule report. See § 124.73(b).

9. The requirement (§ 124.45(f) in the proposed guidelines) that a permit may not be transferred to a third party without the prior written approval of the Director has been taken out. As was pointed out in various comments, the permit terms and conditions must be observed regardless of the identity of the owner or operator of the facility covered by the permit. Written approval of the Director to any transfers of such facilities is not necessary for the transferee to be subject to the permit requirements.

10. A new standard permit condition has been added to clarify that any authorized discharge must be consistent with toxic effluent standards or prohibitions established under section 307(a) of the Act. See new § 124.45(g).

11. Numerous comments were made with regard to the provisions dealing with the disposal of pollutants in wells, arguing that EPA was exceeding, or not sufficiently exercising its authority under the Act. Language has been added to clarify that permits for well disposals are subject to the same procedures and requirements as other NPDES permits. See new § 124.80(c). The Regional Administrator is directed to distribute to the Director and utilize in his review of well permits any policies, technical information, or requirements specified by the Administrator. See new § 124.80(d).

12. Many comments received concerning the conflict of interest section, § 124.94 (See section 304(h)(2)(D) of the Act upon which this section is based), indicate widespread difference of opinion as to the interpretation of both the language and the intent of the section. The guidelines attempt to specify EPA interpretation of some of the key terms without attempting to answer every question raised by section 304(h)(2)(D) of the Act. Subsection (a) has been modified to clarify the relationship between the board and its administrative counterpart. Any person who has or shares authority to approve permit applications is included within the term "board or body." Subsection (c) has been modified to clarify that it is the State agency—and not the employee of that agency—which is not included in the term "permit holders or applicants for a permit." Finally, a new subsection (e) has been added to indicate that payments from mutual funds or certain diversified investments are so remote as not to be income "directly or indirectly from permit holders or applicants for a permit."

It should be emphasized that nothing in these guidelines pertains to the issuance of permits for the discharge of dredged or fill material into the navigable waters. Such permits are to be issued by the Secretary of the Army, acting through the Chief of Engineers, pursuant to section 404 of the Act.

It also should be emphasized that these guidelines are procedural in nature and do not attempt to specify the scope of jurisdiction established under the Act or legislative history pertaining thereto.

Because of the importance of promptly making known to the States the necessary program procedures for participation in the NPDES and because of the 90-day deadline imposed by section 304(h)(2) of the Act for the promulgation of State program guidelines, the Administrator finds good cause to declare the guidelines effective immediately upon final publication.

Dated: December 18, 1972.

WILLIAM D. RUCKELSHAUS,
Administrator.

Subpart A—General

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Subpart B—Prohibition of Discharges of Pollutants

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124.71 Receipt and follow-up of notifications and reports.
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Subpart I—Disposal of Pollutants into Wells

124.80 Control of disposal of pollutants into wells.

Subpart J—Resources, Planning and Other Requirements

124.91 Availability of resources.
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Subpart K—NPDES Application and Reporting Forms. [Reserved]

Appendix A—Sample Public Notice.
Appendix B—Sample Fact Sheet.
Appendix C—Sample Public Notice for Public Hearings.

AUTHORITY: The provisions of this Part 124 issued under section 304, 84 Stat. 816, 33 U.S.C. 1314 (1972).

Subpart A—General

§ 124.1 Definitions.

As used in this part, the following terms shall have the meanings indicated below:

(a) The term "Act" means the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1314, et seq.

(b) The term "Refuse Act" means section 13 of the River and Harbor Act of March 3, 1899.

(c) The term "EPA" means the U.S. Environmental Protection Agency.

(d) The term "Administrator" means the Administrator of the U.S. Environmental Protection Agency.

(e) The term "Regional Administrator" means one of the EPA Regional Administrators.

(f) The term "Director" means the chief administrative officer of a State water pollution control agency or interstate agency. In the event responsibility for water pollution control and enforcement is divided among two or more State or interstate agencies, the term "Director" means the administrative officer authorized to perform the particular procedure to which reference is made.

(g) The term "National Pollutant Discharge Elimination System (NPDES)" means the national system for the issuance of permits under section 402 of the Act and includes any State or interstate program which has been approved by the Administrator, in whole or in part, pursuant to section 402 of the Act.

(h) The term "NPDES application" means the uniform national forms (including subsequent additions, revisions, or modifications duly promulgated by the Administrator pursuant to the Act) for application for an NPDES permit.

(i) The term "NPDES reporting form" means the uniform national forms (including subsequent additions, revisions, or modifications duly promulgated by the Administrator pursuant to the Act) for reporting data and information pursuant to monitoring and other conditions of NPDES permits.

(j) The term "NPDES permit" means any permit or equivalent document or requirements issued by the Administrator, or, where appropriate, by the Director, after enactment of the Federal Water Pollution Control Amendments of 1972, to regulate the discharge of pollutants pursuant to section 402 of the Act.

(k) The term "NPDES form" means any issued NPDES permit and any uniform national form developed for use in the NPDES and prescribed in regulations promulgated by the Administrator, including the Refuse Act application, the NPDES application and the NPDES reporting forms.

(l) The term "Refuse Act application" means the application for a permit under the Refuse Act.

(m) The term "Refuse Act permit" means any permit issued under the Refuse Act.

(n) The definitions of the following terms contained in section 502 of the Act shall be applicable to such terms as used in this part unless the context otherwise requires: "State water pollution control agency" (referred to herein as "State agency"), "interstate agency," "State," "municipality," "person," "pollutant," "navigable waters," "territorial seas," "contiguous zone," "ocean," "effluent limitations," "discharge of a pollutant," "toxic pollutant," "point source," "biological monitoring," "discharge," "schedule of compliance," "industrial user," and "pollution."

(o) The term "national data bank" means a facility or system established or to be established by the Administrator for the purposes of assembling, organizing, and analyzing data pertaining to water quality and the discharge of pollutants.

(p) The term "applicable water quality standards" means all water quality standards to which a discharge is subject under the Act and which have been (1) approved or permitted to remain in effect by the Administrator pursuant to section 303(a) or 303(c) of the Act, or (2) promulgated by the Administrator pursuant to section 303(b) or 303(c) of the Act.

(q) The term "applicable effluent standards and limitations" means all State and Federal effluent standards and limitations to which a discharge is subject under the Act, including, but not limited to, effluent limitations, standards of performance, toxic effluent standards and prohibitions, and pretreatment standards.

(Comment. The House committee print states: "The committee points out, as it did in the discussion of section 401, that the term 'applicable' used in section 402 has two meanings. It means that the requirement which the term 'applicable' refers to must be pertinent and apply to the activity and the requirement must be in existence by having been promulgated or implemented.")

(r) The term "minor discharge" means any discharge which (1) has a total volume of less than 50,000 gallons on every day of the year, (2) does not affect the waters of any other State, and (3) is not identified by the Director, the Regional Administrator, or by the Administrator in regulations issued pursuant to section 307(a) of the Act as a discharge which is not a minor discharge. If there is more than one discharge from a facility and the sum of the volumes of all discharges from the facility exceeds 50,000 gallons on any day of the year, then no discharge from the facility is a "minor discharge" as defined herein.

§ 124.2 Scope and purpose.

(a) This part establishes guidelines specifying procedural and other elements which must be present in a State or interstate program in order to obtain approval of the Administrator pursuant to section 402 of the Federal Water Pollution Control Act, as amended, 86 Stat. 816, 33 U.S.C. ____.

(b) A submitted State or interstate program which conforms to the guidelines of this part and which meets the requirements of section 402 of the Act shall be approved by the Administrator. Upon approval, the Administrator shall suspend his issuance of NPDES permits as to those point sources subject to such approved program.

(c) Any State program which obtains the approval of the Administrator pursuant to section 402 of the Act shall at all times be in accordance with section 402 and the guidelines contained in this part.

§ 124.3 Form of authority cited by Attorney General.

All authorities cited by the State attorney general as authority adequate to meet the requirements of section 402(b) of the Act (a) shall be in the form of lawfully promulgated State statutes and regulations and (b) shall be in full force and effect at the time the Attorney General signs the Attorney General's statement.

§ 124.4 Authority for State program procedures.

(a) All procedures which the State proposes to establish and administer to conform with the requirements of this part shall be set forth in State statutes or lawfully promulgated State regulations. Such State statutes and regulations shall be in full force and effect at the time the Governor submits the State program to the Regional Administrator.

(b) Notwithstanding paragraph (a) of this section, if the State or interstate agency has the statutory authority to establish and administer the procedures which conform to the requirements of this part, regulations setting forth the requirements of this part may be promulgated by the State subsequent to the time the Governor submits the State program to the Regional Administrator, if the Administrator finds the following:

(1) The State has submitted a full and complete description of procedures to administer its program in conformance with the requirements of this part; and

(2) The State has made a written commitment to the Administrator to promulgate regulations which meet the requirements of paragraph (a) of this section by January 1, 1974.

Subpart B—Prohibition of Discharges of Pollutants

§ 124.10 Prohibition of discharges into State waters.

Any State or interstate program participating in the NPDES must have a statute or regulation, enforceable in State courts, which prohibits discharges of pollutants by any person, except as authorized pursuant to an NPDES permit.

(Comment). For the purposes of this subpart, a State or interstate program shall qualify for participation in the NPDES if it prohibits discharges of pollutants to the same extent such discharges are prohibited in section 301(a) of the Act. It is recognized that some State or interstate programs presently exempt or exclude certain categories, types, or sizes of point sources from the general prohibition of the unauthorized discharge of pollutants or from the requirement of obtaining a permit. Other States have in effect "grandfather" clauses which either exempt discharges already in existence or provide for automatic issuance of a permit to existing dischargers. Exceptions to the general prohibition cannot be approved. Depending on their scope and nature, any such exceptions will either (1) constitute grounds for withholding approval of the entire submitted program until such time as the State or interstate agency revises or modifies its program to conform to this subpart, or (2) constitute categories, types, or sizes of point sources for which the Administrator will not suspend the issuance of NPDES permits. In the latter case, the Administrator will issue NPDES permits for those point sources not subject to the State or interstate agency's authority.)

Subpart C—Acquisition of Data

§ 124.21 Application for NPDES permit.

Procedures of any State or interstate agency participating in the NPDES shall insure that every applicant for an NPDES permit complies with NPDES filing requirements. Such procedures and requirements shall include the following:

(a) A requirement that any person discharging pollutants must:

(1) Have filed a complete Refuse Act application; or,

(2) File a complete NPDES application no later than 60 days following receipt by the applicant of notice from the Director that the applicant's previously filed Refuse Act application is so deficient as not to have satisfied the filing requirements; or,

(3) File a complete NPDES application within a stated period, not to exceed any

applicable periods specified in Federal regulations for persons filing under the NPDES.

(*Comment.* Federal filing requirements for the NPDES include the timely filing of a properly completed Refuse Act or NPDES application form. State and interstate agencies may specify, where necessary, additional filing requirements such as the submission of engineering reports, plans, and specifications for present or proposed treatment or control of discharges of pollutants. While duplication should be avoided, the Administrator recognizes that the NPDES application form may not by itself satisfy the needs of every participating program.)

(b) A requirement that any person wishing to commence discharges of pollutants after the applicable period in paragraph (a)(3) of this section, must file a complete NPDES application either (1) no less than 180 days in advance of the date on which it is desired to commence the discharge of pollutants, or (2) in sufficient time prior to the commencement of the discharge of pollutants to insure compliance with the requirements of section 306 of the Act, or with any applicable zoning or siting requirements established pursuant to section 208(b)(2)(C) of the Act, and any other applicable water quality standards and applicable effluent standards and limitations.

(*Comment.* The purpose of this requirement is to insure that the Director has sufficient time to examine applications from new sources of discharge of pollutants and to apply standards of performance without unnecessarily delaying scheduled startup. The sooner the Director can specify requirements for new sources, the more easily the applicant can modify his plans, if necessary, without disruption and waste. Those State or interstate agencies which begin review at the planning stages of a new project are in the best position to insure orderly compliance with new source standards.)

(c) Procedures which (1) enable the Director to require the submission of additional information after a Refuse Act or an NPDES application has been filed, and (2) insure that, if a Refuse Act or NPDES application is incomplete or otherwise deficient, processing of the application shall not be completed until such time as the applicant has supplied the missing information or otherwise corrected the deficiency.

(*Comment.* The Director may find he needs information other than that initially filed by the applicant in order to make a permit decision. The Director should not hesitate to go back to the applicant for further information. In some cases, nothing less than an on-site inspection of an applicant's pollution control technology and practices will suffice.

No NPDES permit should be issued until the applicant has fully complied with the filing requirements specified in this subpart. If an applicant fails or refuses to correct deficiencies in his NPDES application form, the Director should take timely enforcement action.)

§ 124.22 Receipt and use of Federal data.

Each State or interstate agency participating in the NPDES shall receive any relevant data collected by the Regional Administrator prior to such agency's participation in the NPDES in such manner as the Director and the Regional Administrator shall agree. Any agreement between the State or interstate agency and the Regional Administrator shall provide for at least the following:

(a) Prompt transmittal to the Director from the Regional Administrator of copies of any Refuse Act applications, NPDES applications, or other relevant data collected by the Regional Administrator prior to the State or interstate agency's participation in the NPDES; and

(b) A procedure to insure that the Director will not issue an NPDES permit on the basis of any Refuse Act or NPDES application received from the Regional Administrator which the Regional Administrator has identified as incomplete or otherwise deficient until the Director receives information sufficient to correct the deficiency to the satisfaction of the Regional Administrator.

(*Comment.* The two purposes of this section are: (1) To provide for the transfer of data bearing on NPDES permit determinations from the Federal Government to the participating State or interstate agencies, and (2) to insure that any deficiencies in the transferred NPDES forms will be corrected prior to issuance of an NPDES permit. The "agreement" mechanism allows flexibility in achieving both purposes. Time and manner of transfer can be worked out by each participating agency and the Regional Administrator. If agreed upon, deficient applications could either be retained by the Regional Administrator until completed or be transferred with the satisfactory applications. If the Director prefers to receive and correct deficient applications, the agreement could provide for the forwarding to the Regional Administrator of the information necessary to correct the deficiency.)

§ 124.23 Transmission of data to Regional Administrator.

Each State or interstate agency participating in the NPDES shall transmit to the Regional Administrator copies of NPDES forms received by the State or interstate agency in such manner as the Director and Regional Administrator shall agree. Any agreement between the State or interstate agency and the Regional Administrator shall provide for at least the following:

(a) Prompt transmittal to the Regional Administrator of a complete copy of any PDES form received by the State or interstate agency;

(b) Procedures for the transmittal to the national data bank of a complete copy, or relevant portions thereof, of any appropriate NPDES form received by the State or interstate agency;

(c) Procedures for acting on the Regional Administrator's written waiver, if any, of his rights to receive copies of NPDES forms with respect to classes, types, and sizes within any category of point sources and with respect to minor discharges or discharges to particular navigable waters or parts thereof; and,

(d) An opportunity for the Regional Administrator to object in writing to deficiencies in any NPDES application or reporting form received by him and to have such deficiency corrected. If the Regional Administrator's objection relates to an NPDES application, the Director shall send the Regional Administrator any information necessary to correct the deficiency and shall, if the Regional Administrator so requests, not issue the NPDES permit until he receives notice from the Regional Administrator that the deficiency has been corrected.

(e) An opportunity for the Regional Administrator to identify any discharge which has a total volume of less than 50,000 gallons on every day of the year as a discharge which is not a minor discharge. If the Regional Administrator so identifies a discharge and notifies the Director, the Director shall require the applicant for such discharge to submit additional NPDES application forms or any other information requested by the Regional Administrator in his notification to the Director.

(f) Procedures for the transmittal, if requested by the Regional Administrator, of copies of notice received by the Director from publicly owned treatment works pursuant to §§ 124.45 (d) and (e).

§ 124.24 Identity of Signatories to NPDES forms.

Any State or interstate program participating in the NPDES shall require that any NPDES form submitted to the Director be signed as follows:

(a) In the case of corporations, by a principal executive officer of at least the level of vice president, or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge described in the NPDES form originates.

(b) In the case of a partnership, by a general partner.

(c) In the case of a sole proprietorship, by the proprietor.

(d) In the case of a municipal, State, or other public facility, by either a principal executive officer, ranking elected official or other duly authorized employee.

Subpart D—Notice and Public Participation

(*Comment.* Section 101(e) of the Act provides that public participation shall be "provided for, encouraged and assisted by the Administrator and the States." Section 402(b)(3) of the Act further calls upon State and interstate agencies participating in the NPDES "to insure that the public, and any other State the waters of which may be affected, receive notice of each application for a permit and to provide an opportunity for public hearing before a ruling on each such application." This subpart specifies certain procedures to be followed by all participating State and interstate agencies to insure national uniformity in the quality of public participation in NPDES permit determinations. Each State or interstate agency may devise additional procedures and means by which effective and constructive public participation may be enhanced.)

§ 124.31 Formulation of tentative determinations and draft NPDES permit.

(a) Any State or interstate agency participating in the NPDES shall formu-

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late and prepare tentative staff determinations with respect to a Refuse Act or NPDES application in advance of public notice of the proposed issuance or denial of an NPDES permit. Such tentative determinations shall include at least the following:

(1) A proposed determination to issue or deny an NPDES permit for the discharge described in the Refuse Act or NPDES application; and,

(2) If the determination proposed in paragraph (a) of this section is to issue the NPDES permit, the following additional tentative determinations:

(i) Proposed effluent limitations, identified pursuant to §§ 124.43 and 124.45, for those pollutants proposed to be limited;

(ii) A proposed schedule of compliance, including interim dates and requirements, for meeting the proposed effluent limitations, identified pursuant to § 124.44; and

(iii) A brief description of any other proposed special conditions (other than those required in § 124.45) which will have a significant impact upon the discharge described in the NPDES application.

(b) The Director shall organize the tentative determinations prepared pursuant to paragraph (a) of this section into a draft NPDES permit for the Refuse Act of NPDES application.

§ 124.32 Public notice.

(a) Public notice of every complete application for an NPDES permit shall be circulated in a manner designed to inform interested and potentially interested persons of the proposed discharge and of the proposed determination to issue or deny an NPDES permit for the proposed discharge. Procedures for the circulation of public notice shall include at least the following:

(1) Notice shall be circulated within the geographical areas of the proposed discharge; such circulation may include any or all of the following:

(i) Posting in the post office and public places of the municipality nearest the premises of the applicant in which the effluent source is located;

(ii) Posting near the entrance to the applicant's premises and in nearby places; and

(iii) Publishing in local newspapers and periodicals, or, if appropriate, in a daily newspaper of general circulation;

(2) Notice shall be mailed to any person or group upon request; and

(3) The Director shall add the name of any person or group upon request to a mailing list to receive copies of notices for all NPDES applications within the State or within a certain geographical area.

(b) The Director shall provide a period of not less than thirty (30) days following the date of the public notice during which time interested persons may submit their written views on the tentative determinations with respect to the NPDES application. All written comments submitted during the 30-day comment period shall be retained by the Director and considered in the formulation of his final determinations with respect to the NPDES application. The period for comment may be extended at the discretion of the Director.

(c) The contents of public notice of applications for NPDES permits shall include at least the following (See Appendix A to this part for a sample public notice which meets the requirements of this section.):

(1) Name, address, phone number of agency issuing the public notice;

(2) Name and address of each applicant;

(3) Brief description of each applicant's activities or operations which result in the discharge described in the NPDES application (e.g., municipal waste treatment plant, steel manufacturing, drainage from mining activities);

(4) Name of waterway to which each discharge is made and a short description of the location of each discharge on the waterway indicating whether such discharge is a new or an existing discharge;

(5) A statement of the tentative determination to issue or deny an NPDES permit for the discharge described in the NPDES application;

(6) A brief description of the procedures for the formulation of final determinations, including the 30-day comment period required by paragraph (b) of this section and any other means by which interested persons may influence or comment upon those determinations; and

(7) Address and phone number of State or interstate agency premises at which interested persons may obtain further information, request a copy of the draft permit prepared pursuant to § 124.31(b), request a copy of the fact sheet described in § 124.33 and inspect and copy NPDES forms and related documents.

§ 124.33 Fact sheets.

(a) For every discharge which has a total volume of more than 500,000 gallons on any day of the year, the Director shall prepare and, following public notice, shall send, upon request to any person a fact sheet with respect to the application described in the public notice. The contents of such fact sheets shall include at least the following information (see Appendix B to this part for a sample fact sheet which meets the requirements of this section):

(1) A sketch or detailed description of the location of the discharge described in the NPDES application;

(2) A quantitative description of the discharge described in the NPDES application which includes at least the following:

(i) The rate or frequency of the proposed discharge; if the discharge is continuous, the average daily flow in gallons per day or million gallons per day;

(ii) For thermal discharges subject to limitation under the Act, the average summer and winter temperatures in degrees Fahrenheit; and

(iii) The average daily discharge in pounds per day of any pollutants which are present in significant quantities or which are subject to limitations or prohibition under sections 301, 302, 306, or 307 of the Act and regulations published thereunder;

(3) The tentative determinations required under § 124.31;

(4) A brief citation, including a brief identification of the uses for which the receiving waters have been classified, of the water quality standards and effluent standards and limitations applied to the proposed discharge; and

(5) A fuller description of the procedures for the formulation of final determinations than that given in the public notice including:

(i) The 30-day comment period required by § 124.32(b);

(ii) Procedures for requesting a public hearing and the nature thereof; and

(iii) Any other procedures by which the public may participate in the formulation of the final determinations.

(b) The Director shall add the name of any person or group upon request to a mailing list to receive copies of fact sheets.

§ 124.34 Notice to other Government agencies.

Any State or interstate agency participating in the NPDES shall notify other appropriate Government agencies of each complete application for an NPDES permit and shall provide such agencies an opportunity to submit their written views and recommendations. Procedures for such notification shall include the following:

(a) At the time of issuance of public notice pursuant to § 124.32, transmission of a fact sheet to any other States whose waters may be affected by the issuance of an NPDES permit and, upon request, providing such States with a copy of the NPDES application and a copy of the proposed permit prepared pursuant to § 124.31(b). Each affected State shall be afforded an opportunity to submit written recommendations to the Director and to the Regional Administrator which the Director may incorporate into the permit if issued. Should the Director fail to incorporate any written recommendations thus received, he shall provide to the affected State or States (and to the Regional Administrator) a written explanation of his reasons for failing to accept any of the written recommendations.

(b) A procedure, similar to paragraph (a) of this section, for notifying any interstate agency having water quality control authority over waters which may be affected by the issuance of a permit.

(c) At the time of issuance of public notice pursuant to § 124.32, transmission of a fact sheet to the appropriate District Engineer of the Army Corps of Engineers of NPDES applications for discharges (other than minor discharges) into navigable waters.

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(1) The Director and the District Engineer for each Corps of Engineers district within the State or interstate area may arrange for (i) notice to the District Engineer of minor discharges, (ii) waiver by the District Engineer of his right to receive fact sheets with respect to classes, types, and sizes within any category of point sources and with respect to discharges to particular navigable waters or parts thereof and (iii) any procedures for the transmission of forms, period for comment by the District Engineer (e.g., 30 days), and for objections of the District Engineer.

(2) A copy of any written agreement between the Director and a District Engineer shall be forwarded to the Regional Administrator and shall be made available to the public for inspection and copying.

(d) A procedure for mailing copies of public notice (or upon specific request, copies of fact sheets) for application for NPDES permits to any other Federal, State, or local agency, or any affected country, upon request, and providing such agencies an opportunity to respond, comment, or request a public hearing pursuant to § 124.36. Such agencies shall include at least the following:

(1) The agency responsible for the preparation of an approved plan pursuant to section 208(b) of the Act; and

(2) The State or interstate agency responsible for the preparation of a plan pursuant to an approved continuous planning process under section 303(e) of the Act, unless such agency is under the supervision of the Director.

(e) Procedures for notice to and coordination with appropriate public health agencies for the purpose of assisting the applicant in coordinating the applicable requirements of the Act with any applicable requirements of such public health agencies.

§ 124.35 Public access to information.

(a) Any State or interstate agency participating in the NPDES shall insure that any NPDES forms (including the draft NPDES permit prepared pursuant to § 124.31(b)) or any public comment upon those forms pursuant to § 124.32(b) shall be available to the public for inspection and copying. The Director, in his discretion, may also make available to the public any other records, reports, plans, or information obtained by the State or interstate agency pursuant to its participation in the NPDES.

(b) The Director shall protect any information (other than effluent data) contained in such NPDES form, or other records, reports, or plans as confidential upon a showing by any person that such information if made public would divulge methods of processes entitled to protection as trade secrets of such person. If, however, the information being considered for confidential treatment is contained in an NPDES form, the Director shall forward such information to the Regional Administrator for his concurrence in any determination of confidentiality. If the Regional Administrator does not agree that some or all of the information being considered for confidential treatment merits such protection, he shall request advice from the Office of General Counsel, stating the reasons for his disagreement with the determination of the Director. The Regional Administrator shall simultaneously provide a copy of such request to the person claiming trade secrecy. The General Counsel shall determine whether the information in question would, if revealed, divulge methods of processes entitled to protection as trade secrets. In making such determinations, he shall consider any additional information submitted to the Office of General Counsel within 30 days of receipt of the request from the Regional Administrator. If the General Counsel determines that the information being considered does not contain trade secrets, he shall so advise the Regional Administrator and shall notify the person claiming trade secrecy of such determination by certified mail. No sooner than 30 days following the mailing of such notice, the Regional Administrator shall communicate to the Director his decision not to concur in the withholding of such information, and the Director and the Regional Administrator shall then make available to the public, upon request, that information determined not to constitute trade secrets.

(c) Any information accorded confidential status, whether or not contained in an NPDES form, shall be disclosed, upon request, to the Regional Administrator, or his authorized representative, who shall maintain the disclosed information as confidential.

(d) The Director shall provide facilities for the inspection of information relating to NPDES forms and shall insure that State employees honor requests for such inspection promptly without undue requirements or restrictions. The Director shall either (1) insure that a machine or device for the copying of papers and documents is available for a reasonable fee, or (2) otherwise provide for or coordinate with copying facilities or services such that requests for copies of nonconfidential documents may be honored promptly.

(*Comment.* Although not required herein, the Director is encouraged to maintain facilities for inspection and copying in more than one location within the State or interstate area in order to increase citizen access to NPDES forms and activities.)

§ 124.36 Public hearings.

The Director shall provide an opportunity for the applicant, any affected State, any affected interstate agency, any affected country, the Regional Administrator, or any interested agency, person, or group of persons to request or petition for a public hearing with respect to NPDES applications. Any such request or petition for public hearing shall be filed within the 30-day period prescribed in § 124.32(b) and shall indicate the interest of the party filing such request and the reasons why a hearing is warranted. The Director shall hold a hearing if there is a significant public interest (including the filing of requests or petitions for such hearing) in holding such a hearing. Instances of doubt should be resolved in favor of holding the hearing. Any hearing brought pursuant to this subsection shall be held in the geographical area of the proposed discharge or other appropriate area, in the discretion of the Director, and may as appropriate, consider related groups of permit applications.

§ 124.37 Public notice of public hearings.

(a) Public notice of any hearing held pursuant to § 124.36 above shall be circulated at least as widely as was the notice of the NPDES application. Procedures for the circulation of public notice for hearings held under § 124.36 shall include at least the following:

(1) Notice shall be published in at least one newspaper of general circulation within the geographical area of the discharge;

(2) Notice shall be sent to all persons and Government agencies which received a copy of the notice or the fact sheet for the NPDES application;

(3) Notice shall be mailed to any person or group upon request; and

(4) Notice shall be effected pursuant to subparagraphs (1) and (3) of this paragraph at least thirty (30) days in advance of the hearing.

(b) The contents of public notice of any hearing held pursuant to § 124.36 shall include at least the following (see Appendix C to this part for a sample hearing notice which meets the requirements of this section):

(1) Name, address, and phone number of agency holding the public hearing;

(2) Name and address of each applicant whose application will be considered at the hearing;

(3) Name of waterway to which each discharge is made and a short description of the location of each discharge on the waterway;

(4) A brief reference to the public notice issued for each NPDES application, including identification number and date of issuance;

(5) Information regarding the time and location for the hearing;

(6) The purpose of the hearing;

(7) A concise statement of the issues raised by the persons requesting the hearing;

(8) Address and phone number of premises at which interested persons may obtain further information, request a copy of each draft NPDES permit prepared pursuant to § 124.31(b) above, request a copy of each fact sheet prepared pursuant to § 124.33, and inspect and copy NPDES forms and related documents; and,

(9) A brief description of the nature of the hearing, including the rules and procedures to be followed.

Subpart E—Terms and Conditions of NPDES Permits

§ 124.41 Prohibited discharges.

Any State or interstate agency participating in the NPDES shall insure that no permit shall be issued authorizing any of the following discharges:

(a) The discharge of any radiological, chemical, or biological warfare agent or high-level radioactive waste into navigable waters;

(b) Any discharge which the Secretary of the Army acting through the chief of engineers finds would substantially impair anchorage and navigation;

(c) Any discharge to which the Regional Administrator has objected in writing pursuant to any right to object provided the Administrator in section 402(d) of the Act; and

(d) Any discharge from a point source which is in conflict with a plan or amendment thereto approved pursuant to section 208(b) of the Act.

§ 124.42 Application of effluent standards and limitations, water quality standards, and other requirements.

(a) Procedures for any State or interstate program participating in the NPDES must insure that the terms and conditions of each issued NPDES permit apply and insure compliance with all of the following, whenever applicable:

(1) Effluent limitations under sections 301 and 302 of the Act;

(2) Standards of performance for new sources under section 306 of the Act;

(3) Effluent standards, effluent prohibitions, and pretreatment standards under section 307 of the Act;

(4) Any more stringent limitation, including those (i) necessary to meet water quality standards, treatment standards, or schedules of compliance, established pursuant to any State law or regulation (under authority preserved by section 510), or (ii) necessary to meet any other Federal law or regulation, or (iii) required to implement any applicable water quality standards; such limitations to include any legally applicable requirements necessary to implement total maximum daily loads established pursuant to section 303(d) and incorporated in the continuing planning process approved under section 303(e) of the Act and any regulations and guidelines issued pursuant thereto;

(5) Any more stringent legally applicable requirements necessary to comply with a plan approved pursuant to section 208(b) of the Act; and

(6) Prior to promulgation by the Administrator of applicable effluent standards and limitations pursuant to sections 301, 302, 306, and 307, such conditions as the Director determines are necessary to carry out the provisions of the Act.

(7) If the NPDES permit is for the discharge of pollutants into the navigable waters from a vessel or other floating craft, any applicable regulations promulgated by the Secretary of the department in which the Coast Guard is operating, establishing specifications for safe transportation, handling, carriage, storage, and stowage of pollutants.

(b) In any case where an issued NPDES permit applies the effluent standards and limitations described in subparagraphs (1), (2), and (3) of paragraph (a) of this section, the Director must state that the discharge authorized by the permit will not violate applicable water quality standards and must have prepared some explicit verification of that statement. In any case where an issued NPDES permit applies any more stringent effluent limitation based upon applicable water quality standards, a waste load allocation must be prepared to ensure that the discharge authorized by the permit is consistent with applicable water quality standards.

§ 124.43 Effluent limitations in issued NPDES permits.

In the application of effluent standards and limitations, water quality standards, and other legally applicable requirements, pursuant to § 124.42, any State or interstate agency participating in the NPDES shall, for each issued NPDES permit, specify average and maximum daily quantitative limitations for the level of pollutants in the authorized discharge in terms of weight (except pH, temperature, radiation, and any other pollutants not appropriately expressed by weight). The Director may, in his discretion, in addition to the specification of daily quantitative limitations by weight, specify other limitations, such as average or maximum concentration limits, for

(*Comment.* The manner in which effluent limitations are expressed will depend upon the nature of the discharge. Continuous discharges shall be limited by daily loading figures and, where appropriate, may be limited as to concentration or discharge rate (e.g., for toxic or highly variable continuous discharges). Batch discharges should be more particularly described and limited in terms of (i) frequency (e.g., to occur not more than once every 3 weeks), (ii) total weight (e.g., not to exceed 300 pounds per batch discharge), (iii) maximum rate of discharge of pollutants during the batch discharge (e.g., not to exceed 2 pounds per minute), and (iv) prohibition or limitation by weight, concentration, or other appropriate measure of specified pollutants (e.g., shall not contain at any time more than 0.1 p.p.m. zinc or more than one-fourth (¼) pound of zinc in any batch discharge). Other intermittent discharges such as recirculation blowdown should be particularly limited to comply with any applicable water quality standards and effluent standards and limitations.)

§ 124.44 Schedules of compliance in issued NPDES permits.

In addition to the application of the effluent standards and limitations, water quality standards, and other legally applicable requirements, pursuant to § 124.42, any State or interstate agency participating in the NPDES shall follow the following procedures in setting schedules in NPDES permit conditions to achieve compliance with applicable effluent standards and limitations, water quality standards, and other legally applicable requirements:

(a) With respect to any discharge which is not in compliance with applicable effluent standards and limitations, applicable water quality standards, or other legally applicable requirements listed in § 124.42 (d) and (e), the permittee shall be required to take specific steps to achieve compliance with the following:

(1) In accordance with any legally applicable schedule of compliance contained in:

(i) Applicable effluent standards and limitations;

(ii) If more stringent, water quality standards; or,

(iii) If more stringent, legally applicable requirements listed in § 124.42 (d) and (e); or,

(2) In the absence of any legally applicable schedule of compliance, in the shortest, reasonable period of time, such period to be consistent with the guidelines and requirements of the Act.

(b) In any case where the period of time for compliance specified in paragraph (a) of this section exceeds 9 months, a schedule of compliance shall be specified in the permit which will set forth interim requirements and the dates for their achievement; in no event shall more than 9 months elapse between interim dates. If the time necessary for completion of the interim requirement (such as the construction of a treatment facility) is more than 9 months and is not readily divided into stages for completion, interim dates shall be specified for the submission of reports of progress towards completion of the interim requirement. For each NPDES permit schedule of compliance, interim dates and the final date for compliance shall, to the extent practicable, fall on the last day of the months of March, June, September, and December.

(*Comment.* Certain interim requirements such as the submission of preliminary or final plans often require less than 9 months and thus a shorter interval should be specified. Other requirements such as the construction of treatment facilities may require several years for completion and may not readily subdivide into 9-month intervals. Long-term interim requirements should nonetheless be subdivided into intervals not longer than 9 months at which the permittee is required to report his progress to the Director pursuant to § 124.44(c).)

(c) Either before or up to fourteen (14) days following each interim date and the final date of compliance the permittee shall provide the Director with written notice of the permittee's compliance or noncompliance with the interim or final requirement.

(d) On the last day of the months of February, May, August, and November the Director shall transmit to the Regional Administrator a list of all instances, as of 30 days prior to the date of such report, of failure or refusal of a permittee to comply with an interim or final requirement or to notify the Director of compliance or noncompliance with each interim or final requirement (as required pursuant to paragraph (b) of this section. Such list shall be available to the public for inspection and copying and shall contain at least the following information with respect to each instance of noncompliance:

(1) Name and address of each noncomplying permittee;

(2) A short description of each instance of noncompliance (e.g., failure to submit preliminary plans, 2 week delay in commencement of construction of treatment facility; failure to notify Director of compliance with interim re-

quirement to complete construction by June 30th, etc.);

(3) A short description of any actions or proposed actions by the permittee or the Director to comply or enforce compliance with the interim or final requirement; and

(4) Any details which tend to explain or mitigate an instance of noncompliance with an interim or final requirement (e.g., construction delayed due to materials shortage, plan approval delayed by objections from State Fish and Wildlife Agency.

(e) If a permittee fails or refuses to comply with an interim or final requirement in an NPDES permit such noncompliance shall constitute a violation of the permit for which the Director may, pursuant to Subpart H of this part, modify, suspend or revoke the permit or take direct enforcement action.

§ 124.45 Other terms and conditions of issued NPDES permits.

In addition to the requirements of §§ 124.42, 124.43, and 124.44, procedures of any State or interstate agency participating in the NPDES must insure that the terms and conditions of each issued NPDES permit provide for and insure the following:

(a) That all discharges authorized by the NPDES permit shall be consistent with the terms and conditions of the permit; that facility expansions, production increases, or process modifications which result in new or increased discharges of pollutants must be reported by submission of a new NPDES application or, if such discharge does not violate effluent limitations specified in the NPDES permit, by submission to the Director of notice of such new or increased discharges of pollutants; that the discharge of any pollutant more frequently than or at a level in excess of that identified and authorized by the permit shall constitute a violation of the terms and conditions of the permit;

(b) That the permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:

(1) Violation of any terms or conditions of the permit;

(2) Obtaining a permit by misrepresentation or failure to disclose fully all relevant facts; and,

(3) A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge;

(c) That the permittee shall permit the Director or his authorized representative, upon the presentation of his credentials:

(1) To enter upon permittee's premises in which an effluent source is located or in which any records are required to be kept under terms and conditions of the permit;

(2) To have access to and copy any records required to be kept under terms and conditions of the permit;

(3) To inspect any monitoring equipment or method required in the permit; or,

(4) To sample any discharge of pollutants.

(d) That, if the permit is for a discharge from a publicly owned treatment works, the permittee shall provide notice to the Director of the following:

(1) Any new introduction of pollutants into such treatment works from a source which would be a new source as defined in section 306 of the Act if such source were discharging pollutants;

(2) Except as to such categories and classes of point sources or discharges specified by the Director, any new introduction of pollutants into such treatment works from a source which would be subject to section 301 of the Act if such source were discharging pollutants; and,

(3) Any substantial change in volume or character of pollutants being introduced into such treatment works by a source introducing pollutants into such works at the time of issuance of the permit.

Such notice shall include information on (i) the quality and quantity of effluent to be introduced into such treatment works and (ii) any anticipated impact of such change in the quantity or quality of effluent to be discharged from such publicly owned treatment works.

(e) That, if the permit is for a discharge from a publicly owned treatment works, the permittee shall require any industrial user of such treatment works to comply with the requirements of sections 204(b), 307, and 308 of the Act. As a means of insuring such compliance, the permittee shall require of each industrial user subject to the requirements of section 307 of the Act and shall forward a copy to the Director periodic notice (over intervals not to exceed 9 months) of progress towards full compliance with section 307 requirements.

(f) That the permittee at all times shall maintain in good working order and operate as efficiently as possible any facilities or systems of control installed by the permittee to achieve compliance with the terms and conditions of the permit.

(g) That if a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under section 307(a) of the Act for a toxic pollutant which is present in the permittee's discharge and such standard or prohibition is more stringent than any limitation upon such pollutant in the NPDES permit, the Director shall revise or modify the permit in accordance with the toxic effluent standard or prohibition and so notify the permittee.

§ 124.46 Transmission to Regional Administrator of proposed NPDES permits.

Any State or interstate agency participating in the NPDES shall transmit to the Regional Administrator copies of NPDES permits proposed to be issued by such agency in such manner as the Director and Regional Administrator shall agree upon. Any agreement between the State or interstate agency and the Regional Administrator shall provide for at least the following:

(a) Except as waived pursuant to paragraph (d) of this section, the transmission by the Director of any and all terms, conditions, requirements, or documents which are a part of the proposed permit or which affect the authorization by the proposed permit of the discharge of pollutants;

(b) A period of time (up to 90 days) in which the Regional Administrator, pursuant to any right to object provided in section 402(d)(2) of the Act, may comment upon, object to, or make recommendations with respect to the proposed permit;

(c) Procedures for State acceptance or rejection of a written objection by the Regional Administrator; and

(d) Any written waiver by the Regional Administrator of his rights to receive, review, object to, or comment upon proposed NPDES permits for classes, types, or sizes within any category of point sources.

§ 124.47 Transmission to Regional Administrator of issued NPDES permits.

Each State or interstate agency participating in the NPDES shall transmit to the Regional Administrator a copy of every issued NPDES permit, immediately following issuance, along with any and all terms, conditions, requirements, or documents which are a part of such permit or which affect the authorization by the permit of the discharge of pollutants.

Subpart F—Duration and Review of NPDES Permits

§ 124.51 Duration of issued NPDES permits.

Any State or interstate agency participating in the NPDES shall provide that each issued NPDES permit shall have a fixed term not to exceed 5 years.

(*Comment.* The term of an NPDES permit may extend beyond the time for compliance specified pursuant to § 124.44. The time for compliance shall be that dictated by (i) effluent standards and limitations, or (ii) if more stringent, water quality standards, or (iii) if more stringent, other legally applicable requirements such as those listed in § 124.42 (d) and (e). The term of the NPDES permit may extend beyond the final deadline for compliance, except that the term may not exceed 5 years. Failure to comply with the permit schedule of compliance, including interim and final requirements, as provided in § 124.44(e), is a violation of the permit for which the Director may take Subpart H of this part enforcement action.)

§ 124.52 Reissuance of NPDES permits.

(a) Any State or interstate agency participating in the NPDES shall maintain procedures for the review of applications for reissuance of NPDES permits. Such review procedures shall require, and the Director shall so notify the permittee, that any permittee who wishes to continue to discharge after the expiration date of his NPDES permit must file for reissuance of his permit at least 180 days prior to its expiration. The filing requirements for reissuance shall

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be determined by the State or interstate agency and may range from a simple written request for reissuance to submission of all NPDES and State or interstate forms.

(b) The scope and manner of any review of an application for reissuance of an NPDES permit shall be within the discretion of the State or interstate agency but shall be sufficiently detailed as to insure the following:

(1) That the permittee is in compliance with or has substantially complied with all the terms, conditions, requirements, and schedules of compliance of the expired NPDES permit;

(2) That the Director has up-to-date information on the permittee's production levels, permittee's waste treatment practices, nature, contents, and frequency of permittee's discharge, either pursuant to the submission of new forms and applications or pursuant to monitoring records and reports submitted to the Director by the permittee; and,

(3) That the discharge is consistent with applicable effluent standards and limitations, water quality standards, and other legally applicable requirements listed in § 124.42, including any additions to, or revisions or modifications of such effluent standards and limitations, water quality standards, or other legally applicable requirements during the term of the permit.

(c) The State or interstate agency shall follow the notice and public participation procedures specified in Subpart D of this part in connection with each request for reissuance of an NPDES permit.

(d) Notwithstanding any other provision in this part, any point source the construction of which is commenced after the date of enactment of the Federal Water Pollution Control Act Amendments of 1972 and which is so constructed as to meet all applicable standards of performance shall not be subject to any more stringent standard of performance during a 10-year period beginning on the date of completion of such construction or during the period of depreciation or amortization of such facility for the purposes of section 167 or 169 (or both) of the Internal Revenue Code of 1954, whichever period ends first.

Subpart G—Monitoring, Recording, and Reporting

§ 124.61 Monitoring.

Procedures of any State or interstate agency participating in the NPDES for the monitoring of any discharge authorized by an NPDES permit shall be consistent with the following:

(a) Any discharge authorized by an NPDES permit may be subject to such monitoring requirements as may be reasonably required by the Director, including the installation, use, and maintenance of monitoring equipment or methods (including, where appropriate, biological monitoring methods).

(b) Any discharge authorized by an NPDES permit which (1) is not a minor discharge, (2) the Regional Administrator requests, in writing, be monitored, or (3) contains toxic pollutants for which an effluent standard has been established by the Administrator pursuant to section 307(a) of the Act, shall be monitored by the permittee for at least the following:

(i) Flow (in gallons per day); and,

(ii) All of the following pollutants:

(a) Pollutants (either directly or indirectly through the use of accepted correlation coefficients or equivalent measurements) which are subject to reduction or elimination under the terms and conditions of the permit;

(b) Pollutants which the Director finds, on the basis of information available to him, could have a significant impact on the quality of navigable waters;

(c) Pollutants specified by the Administrator, in regulations issued pursuant to the Act, as subject to monitoring; and,

(d) Any pollutants in addition to the above which the Regional Administrator requests, in writing, be monitored.

(c) Each effluent flow or pollutant required to be monitored pursuant to paragraph (b) of this section shall be monitored at intervals sufficiently frequent to yield data which reasonably characterizes the nature of the discharge of the monitored effluent flow or pollutant. Variable effluent flows and pollutant levels may be monitored at more frequent intervals than relatively constant effluent flows and pollutant levels which may be monitored at less frequent intervals.

§ 124.62 Recording of monitoring activities and results.

Any State or interstate agency participating in the NPDES shall specify the following recording requirements for any NPDES permit which requires monitoring of the authorized discharge:

(a) The permittee shall maintain records of all information resulting from any monitoring activities required of him in his NPDES permit;

(b) Any records of monitoring activities and results shall include for all samples: (1) The date, exact place, and time of sampling; (2) the dates analyses were performed; (3) who performed the analyses; (4) the analytical techniques/methods used; and, (5) the results of such analyses; and,

(c) The permittee shall be required to retain for a minimum of 3 years any records of monitoring activities and results including all original strip chart recording for continuous monitoring instrumentation and calibration and maintenance records. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the permittee or when requested by the Director or Regional Administrator.

§ 124.63 Reporting of monitoring results.

Any State or interstate agency participating in the NPDES shall require periodic reporting (at a frequency of not less than once per year) on the proper NPDES reporting form of monitoring results obtained by a permittee pursuant to monitoring requirements in an NPDES permit. In addition to the NPDES reporting form, the Director in his discretion may require submission of such other suits as he determines to be necessary.

information regarding monitoring re-

(*Comment.* Reporting frequency, as with monitoring frequency, depends upon the nature and impact of the discharge. Annual report submission is sufficient for small cooling water discharges. Discharges for which more frequent, even monthly, reporting is desirable include variable discharges, major, including municipal, discharges, and discharges for which new treatment or control methods are being applied. Reporting frequency should correspond with administrative capability to evaluate the reports as they come in.)

§ 124.64 NPDES monitoring, recording, and reporting requirements.

Any State or interstate agency participating in the NPDES shall adopt procedures consistent with any national monitoring, recording, and reporting requirements specified by the Administrator in regulations issued pursuant to the Act.

Subpart H—Enforcement Provisions

§ 124.71 Receipt and followup of notifications and reports.

(a) Any State or interstate agency participating in the NPDES shall have the procedures and the capability for the receipt, evaluation, and investigatory followup for possible enforcement or remedial action of all notices and reports required of permittees including, but not limited to, the following:

(1) Reports from industrial users of progress towards compliance with the requirements of section 307 of the Act, submitted pursuant to § 124.45(e);

(2) Notifications (or failure to notify) from permittees of compliance or noncompliance with interim requirements specified in NPDES permit schedules of compliance pursuant to § 124.44; and,

(3) Data submitted by permittees in NPDES reporting forms and other forms supplying monitoring data, pursuant to Subpart G of this part.

(b) Any such reports or notifications received by the Director pursuant to paragraph (a) of this section shall: (1) Constitute information available to the Director and (2) if forwarded to the Regional Administrator pursuant to the provisions of this part shall constitute information available to the Administrator within the meaning of section 309 of the Act.

(c) Any State or interstate agency participating in the NPDES shall have procedures and capability similar to paragraph (a) of this section for the receipt and evaluation of notices (relating to new introductions or changes in the volume or character of pollutants introduced into publicly owned treatment works) submitted by permittees which are publicly owned treatment works, pursuant to § 124.45(d), for possible violation of the terms and conditions of the NPDES permit. If the Director determines that any condition of the permit is violated, he shall notify the Regional Administrator and consider taking action under section 402(h) of the Act (relating to proceedings to re-

strict or prohibit the introduction of pollutants into treatment works).

§ 124.72 Modification, suspension, and revocation of NPDES permits.

(a) Any State or interstate agency participating in the NPDES shall provide procedures which insure that, after notice and opportunity for a public hearing, any permit issued under the NPDES can be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the causes listed in § 124.45(b) or for failure or refusal of the permittee to carry out the requirements of § 124.45(c).

(b) The Director may, upon request of the applicant, revise or modify a schedule of compliance in an issued NPDES permit if he determines good and valid cause (such as an Act of God, strike, flood, materials shortage, or other event over which the permittee has little or no control) exists for such revision and if within 30 days following receipt of notice from the Director, the Regional Administrator does not object in writing. All revisions or modifications made pursuant to this subsection during the period ending 30 days prior to the date of transmission of such list, shall be included in the list prepared by the Director pursuant to § 124.44(d).

§ 124.73 Enforcement.

Any State or interstate agency participating in the NPDES shall have such powers and procedures and such recourse to criminal, civil, and civil injunctive remedies as to insure the following ways and means are available to protect, maintain, and enhance water quality:

(a) Procedures which enable the Director to require compliance with (1) any effluent standards and limitations or water quality standards, (2) any NPDES permit or term or condition thereof, (3) any NPDES filing requirements, (4) any duty to permit or carry out inspection, entry, or monitoring activities, or (5) any rules or regulations issued by the Director either pursuant to orders issued by the Director, court actions, or both;

(b) Procedures which enable the Director to immediately and effectively halt or eliminate any imminent or substantial endangerments to the health or welfare of persons resulting from the discharge of pollutants (1) by an order or suit in the appropriate State court to immediately restrain any person causing or contributing to the discharge of pollutants or to take such other action as may be necessary, or (2) by a procedure for the immediate telephonic notice to the Regional Administrator of any actual or threatened endangerments to the health or welfare of persons resulting from the discharge of pollutants;

(c) Procedures which enable the Director to sue in courts of competent jurisdiction to enjoin any threatened or continuing violations of any NPDES permits or conditions thereof without the necessity of a prior revocation of the permit;

(d) Procedures which enable the Director to enter any premises in which an effluent source is located or in which records are required to be kept under terms or conditions of a permit and otherwise be able to investigate, inspect, or monitor any suspected violations of water quality standards or effluent standards and limitations or of NPDES permits or terms or conditions thereof;

(e) Procedures which enable the Director to assess or to sue to recover in court, such civil fines, penalties, and other civil relief as may be appropriate for the violation by any person of (1) any effluent standards and limitations or water quality standards, (2) any NPDES permit or term or condition thereof, (3) any NPDES filing requirements, (4) any duty to permit or carry out inspection, entry, or monitoring activities, (5) any order issued by the Director under paragraph (a) of this section, or (6) any rules, regulations, or orders issued by the Director;

(f) Procedures which enable the Director to seek criminal fines for the willful or negligent violation by such persons of (1) any effluent standards and limitations or water quality standards, (2) any NPDES permit or term or condition thereof, (3) any NPDES filing requirements;

(g) Procedures which enable the Director to seek criminal fines against any person who knowingly makes any false statement, representation, or certification in any NPDES form or any notice or report required by the term and conditions of any issued NPDES permit or knowingly renders inaccurate any monitoring device or method required to be maintained by the Director; and

(h) The maximum civil penalties and criminal fines recoverable by the Director pursuant to paragraphs (e) and (f) of this section shall (1) be comparable to similar maximum amounts recoverable by the Regional Administrator under section 309 or (2) represent an actual and substantial economic deterrent to the actions for which they are assessed or levied. Such civil penalties or criminal fines shall be assessable up to the maximum amounts for each violation specified in paragraphs (e) and (f) of this section, or, if the violation is a continuous discharge, assessable for each day the discharge occurs.

(*Comment.* It is understood that in many States the Director will be represented in State courts by the State attorney general or other appropriate legal officer. While the Director need not appear in court actions under this subpart, he should have the power to request that such actions be brought.

The following enforcement options, while not mandatory, are highly recommended as means not only for compelling compliance but also for providing additional funds to State or interstate program efforts:

(1) Procedures for assessment by the Director or by a State court of any violator for the costs of an investigation, inspection, or monitoring survey which led to the establishment of the violation;

(2) Procedures which enable the Director to assess or to sue any persons responsible for an unauthorized discharge of pollutants for any expenses incurred by the State in removing, correcting, or terminating any adverse effects upon water quality resulting from such unauthorized discharge of pollutants, whether or not accidental; and,

(3) Procedures which enable the Director to sue for compensation for any loss or destruction of wildlife, fish or aquatic life, and for any other actual damages caused by an unauthorized discharge of pollutants, either for the State, for any residents of the State who are directly aggrieved by the unauthorized discharge of pollutants, or both.)

Subpart I—Disposal of Pollutants into Wells

§ 124.80 Control of disposal of pollutants into wells.

Any State or interstate agency participating in the NPDES shall have procedures which control the disposal of pollutants into wells. Any such disposal shall be sufficiently controlled to protect the public health and welfare and to prevent pollution of ground and surface water resources.

(a) If an applicant for an NPDES permit proposes to dispose of pollutants into wells as part of a program to meet the proposed terms and conditions of an NPDES permit, the Director shall specify additional terms and conditions in the final NPDES permit which shall (1) prohibit the proposed disposal, or (2) control the proposed disposal in order to prevent pollution of ground and surface water resources and to protect the public health and welfare.

(b) A State agency participating in the NPDES shall have procedures to prohibit or control through the issuance of permits all other proposed disposals of pollutants into wells. Following approval of the Administrator of a State program pursuant to section 402 of the Act, the Director shall permit no uncontrolled disposals of pollutants into wells within the State.

(c) Any permit issued for the disposal of pollutants into wells shall be issued in accordance with the procedures and requirements specified in this part.

(d) The Regional Administrator shall distribute to the Director and shall utilize in his review of any permits proposed to be issued by the Director for the disposal of pollutants into wells, any policies, technical information, or requirements specified by the Administrator in regulations issued pursuant to the Act or in directives issued to EPA regional offices.

Subpart J—Resources, Planning and Other Requirements

§ 124.91 Availability of resources.

(a) Any State or interstate agency participating in the NPDES shall, in submitting its program description pursuant to section 402(b) of the Act, provide information regarding funding and manpower appropriated for the use of the program proposed to be established and administered under State law or under an interstate compact. Such information shall include the following:

(1) A description of all full-time and part-time employees who will be engaged in carrying out the State permit program, including information on the qualifications and functions of such employees.

(2) A list of the proposed costs and expenses of establishing and administering the program described in the program description, including (i) wages and salaries of the personnel listed in (1) above, (ii) cost of administrative support (such as office space and supplies, computer time, vehicles, notice and hearing procedures, etc), and (iii) cost of technical support (such as laboratory space and supplies, vehicles, watercraft, etc.). Such estimate of costs and expenses shall include the cost and expense of carrying out the procedures and requirements contained in this part;

(3) A description of the funding available to the Director to meet the costs and expenses listed in subparagraph (2) of this paragraph including any restrictions or limitations upon such funding; and

(4) A list of categories and sizes of all point sources (e.g., major industrial, minor industrial, minor municipal, major feedlot, irrigation return flow, shopping centers and subdivisions, etc.) to which the Director proposes to issue permits under the Act. For each category, the following information shall be given:

(i) Estimated numbers of point sources within such category which are required to file for an NPDES permit; and

(ii) Number and percent of point sources within each category for which the State has already issued a State permit or equivalent document regulating the discharge of pollutants.

(b) The Regional Administrator and the Administrator shall review the information submitted by the Director pursuant to paragraph (a) of this section in order to determine whether the Director has resources available to him which will enable him to carry out the program described in the program description submitted pursuant to section 402(b) and the procedures contained in this part. Such a determination shall be based upon an examination of criteria which shall include the following:

(1) Whether there are a sufficient number of employees to process NPDES applications and issue NPDES permits in sufficient time to allow permittees to attain effluent limitations which will achieve the July 1, 1977 goal specified in section 301(b) of the Act;

(2) Whether the employees of the Director have sufficient expertise and experience for the proper specification of terms and conditions of NPDES permits pursuant to the requirements of subpart E of this part;

(3) Whether the employees of the Director have sufficient administrative and technical support and resources, including funding, to enable the Director to carry out his duties under this part and section 402 of the Act;

(4) The number, location, and kinds of point sources which constitute major sources of discharge of pollutants within the State or interstate area; and

(5) The quality of navigable waters within the State or subject to the authority of the interstate agency.

§ 124.92 Inspection and surveillance support for NPDES permits.

Any State or interstate agency participating in the NPDES shall have the funding, qualified personnel, and other resources necessary to support NPDES permits with inspection and surveillance procedures which will determine, independent of information supplied by applicants and permittees, compliance or noncompliance with applicable effluent standards and limitations, water quality standards, NPDES filing requirements, and issued NPDES permits or terms or conditions thereof. Such surveillance and inspection support procedures shall include the following:

(a) A supporting survey program with sufficient capability to make systematic, on-the-spot, comprehensive surveys of all waters subject to the Director's authority in order to identify and locate all point sources subject to NPDES filing requirements. Any compilation, index, or inventory of point sources shall be made available to the Regional Administrator or his authorized representative upon request;

(b) A supporting inspection program for the periodic inspection (to be performed not less than once every year for every discharge which is not a minor discharge) of discharges of pollutants from point sources and facilities for the treatment and control of such discharges of pollutants. Such inspections shall determine compliance or noncompliance with issued NPDES permits or terms or conditions thereof and, in particular, compliance or noncompliance with specific effluent limitations and schedules of compliance in such NPDES permits;

(c) A supporting surveillance program with sufficient capability for the random sampling and analysis of discharges for the purpose of identifying occasional and continuing violations of permit conditions or terms or conditions thereof and the accuracy of information submitted by permittees in NPDES reporting forms and other forms supplying monitoring data; and

(d) A supporting program for the purpose of following up evidence of violations of applicable effluent standards and limitations and water quality standards, NPDES filing requirements, or issued NPDES permits or terms or conditions thereof indicated by reports and notifications evaluated pursuant to § 124.71 above or by survey, inspection, and surveillance activities in paragraphs (a)–(c) of this section. The taking of samples and other information shall be performed with sufficient care as to produce evidence admissible in an enforcement proceeding or in court should the follow-up indicate a violation of applicable effluent standards and limitations and water quality standards or issued NPDES permits or terms or conditions thereof.

§ 124.93 Continuing planning process.

Any State or interstate program participating in the NPDES must have an approved continuing planning process pursuant to section 303(e) of the Act and must assure that its approved planning process is at all times consistent with the Act.

§ 124.94 Agency Board membership.

Each State or interstate agency participating in the NPDES shall insure that any board or body which approves NPDES permit applications or portions thereof shall not include as a member, any person who receives, or has during the previous 2 years received, a significant portion of his income directly or indirectly from permit holders or applicants for a permit.

(a) For the purposes of this section, the term "board or body" includes any individual, including the Director, who has or shares authority to approve permit applications or portions thereof either in the first instance or on appeal.

(b) For the purposes of this section, the term "significant portion of his income" shall mean 10 percent of gross personal income for a calendar year, except that it shall mean 50 percent of gross personal income for a calendar year if the recipient is over 60 years of age and is receiving such portion pursuant to retirement, pension, or similar arrangement.

(c) For the purposes of this section, the term "permit holders or applicants for a permit" shall not include any department or agency of a State government, such as a Department of Parks or a Department of Fish and Wildlife.

(d) For the purposes of this section, the term "income" includes retirement benefits, consultant fees, and stock dividends.

(e) For the purposes of this section, income is not received "directly or indirectly from permit holders or applicants for a permit" where it is derived from mutual-fund payments, or from other diversified investments over which the recipient does not know the identity of the primary sources of income.

Subpart K—NPDES Application and Reporting Forms [Reserved]

(Reserved for NPDES application and reporting forms, along with guidelines and instructions for their use by applicants for NPDES permits and by State and interstate programs participating in the NPDES.)

APPENDIX A

SAMPLE PUBLIC NOTICE

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER QUALITY AND RESOURCES,
1616 COURT HOUSE DRIVE, CAPITAL CITY, STATE
(ZIP) 307-448-8922

[Public Notice No. OPP-72-301; Application No. CIY-400-60-301]

AUGUST 12, 1973.

NOTICE—APPLICATION FOR NPDES PERMIT TO DISCHARGE TO STATE WATERS

Acme Paper Products, Inc., 11345 North Fremont Street, Cape Rockaway, State (ZIP), has applied for a Department of Environmental Protection permit to discharge pollutants into State waters.

Applicant is a manufacturer of bleached grades of paper from kraft pulp. Two existing discharges are described in the application: One of the utility waste water from applicant's steam generating plant and the other of process wastes from the manufacture of pulp and paper. Both discharges are pres-

ently to Martin Creek one-half-mile upstream from Whitehall Bay.

On the basis of preliminary staff review and application of lawful standards and regulations, the Division of Water Quality and Resources proposes to issue a permit to discharge subject to certain effluent limitations and special conditions. These proposed determinations are tentative. Persons wishing to comment upon or object to the proposed determinations are invited to submit same in writing to the above address no later than September 12, 1973. All comments or objections received prior to September 12, 1973, will be considered in the formulation of final determinations regarding the application. If no objections are received, the Director will issue his final determinations within 60 days of the date of this notice. A public hearing may be held if response to this notice indicates significant public interest.

The application, proposed permit including proposed effluent limitations and special conditions, fact sheets, comments received, and other information is on file and may be inspected and copied in Room 814, 1616 Court House Drive, Capital City, State (ZIP), at any time between 8:15 a.m. and 4:45 p.m., Monday through Friday. Fact sheets and further information may be obtained by writing to the above address or by calling the Office of Permit Processing at 307—445—8923.

APPENDIX B

SAMPLE FACT SHEET FOR MAILING TO INTERESTED AND POTENTIALLY INTERESTED PERSONS AND GOVERNMENT AGENCIES

DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF WATER QUALITY AND RESOURCES, 1616 COURT HOUSE DRIVE, CAPITAL CITY, STATE (ZIP) 307—445—8922

[Public Notice No. OPP-72-301; Application No. CIY-400-60-301]

FACT SHEET—APPLICATION FOR NPDES PERMIT TO DISCHARGE TO STATE WATERS

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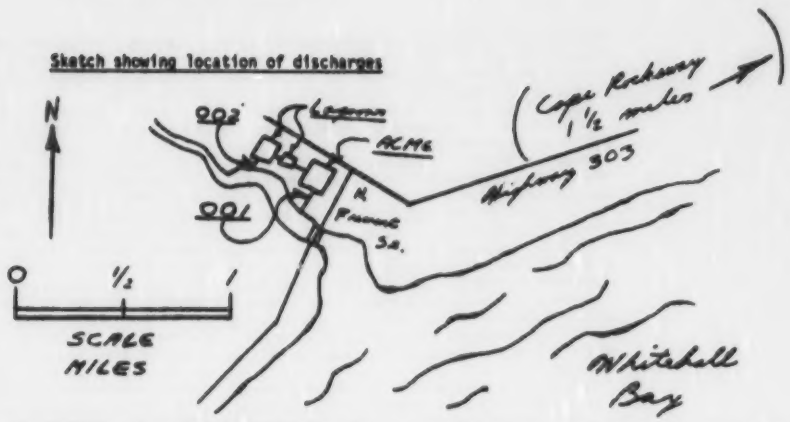
Applicant is a manufacturer of bleached grades of paper from kraft pulp. Two discharges are described in the application: One of utility waste water from applicant's steam generating plant and the other of process wastes from the manufacture of pulp and paper. Both discharges are to Martin Creek one-half-mile upstream from Whitehall Bay. The receiving waters are classified for industrial and navigation use, contact recreation, and propagation of fish and wildlife. A more complete description of the discharges and a sketch of their location follow below.

The application, proposed permit including proposed effluent limitations and special conditions, comments received, and other information is on file and may be inspected and copied in Room 814, 1616 Court House Drive, Capital City, State (ZIP), at any time between 8:15 a.m. and 4:45 p.m., Monday through Friday.

The proposed staff determinations are tentative. Persons wishing to comment upon or object to the proposed determinations are invited to submit same in writing to the above address no later than September 12, 1973. All comments or objections received prior to September 12, 1973, will be considered in the formulation of final determinations regarding the application. If no objections are received, the Director will issue his final determinations within 60 days of the date of public notice. As described more fully below, a public hearing may be held if response to public notice indicates significant public interest.

Sketch showing location of discharges



Description of proposed discharges—Discharge 001. Utility waste water from steam generating plant.

AVERAGE FLOW: 200,000 GALLONS PER OPERATING DAY

Average temperatures:	Intake	Discharge
Summer	85° F.	98° F.
Winter	38° F.	55° F.

Discharge 002. Process wastes from manufacture of pulp and paper.

AVERAGE FLOW: 24,200,000 GALLONS PER OPERATING DAY

Constituents	Milligrams per liter	Pounds per day
BOD	90	18,000
Suspended solids	110	22,000
Phenols	0.5	100
Mercury	0.0025	0.5

Proposed determinations. The Division of Water Quality and Resources has examined the above application. On the basis of applicable effluent limitations and water quality standards, the State Water Quality and Resources Act of 1971, as amended, and regulations issued thereunder, the Division proposes to issue the applicant a permit to discharge subject to effluent limitations and certain other conditions. The following is a brief description of the proposed effluent limitations and special conditions:

(1) *Proposed effluent limitations.*

Discharge 001. none

Discharge 002. visible foam and visible floating solids prohibited. The following discharge constituents shall be limited as follows:

Constituents	Milligrams per liter	Pounds per day
BOD	27.5	5,500
Suspended solids	25	5,000
Phenols	0.10	20
Mercury	0.0005	0.10

(2) *Proposed schedule for compliance.* The applicant shall achieve the effluent levels described in subsection (1) above in accordance with the following schedule:

Submission of final plans to Director by: November 15, 1973.

Commencement of construction by: January 15, 1974.

Completion of construction by: September 15, 1974.

Operational level attained by: November 1, 1974.

(3) *Proposed special conditions.* The applicant is required to operate his treatment facilities at maximum efficiency at all times. The applicant is required to monitor his discharges on a regular basis and report the results every 3 months. The monitoring results will be available to the public. The applicant is required to conduct studies of possible adverse effects of his heated water discharge 001 upon free floating marine life and shellfish in Martin Creek and Whitehall Bay. If applicant's study or independent information supplied to the Director indicate an adverse effect, the applicant will be required to take additional measures to minimize the adverse impact.

Applicable effluent limitations and water quality standards. The following are the effluent limitations and water quality standards which were applied to applicant's discharge in the formulation of the above proposed determinations:

(1) All effluent limitations except mercury are based upon effluent guidelines for the pulp and paper industry, manufacture of bleached paper grades from kraft pulp. See 40 CFR 128.74, 128.89, and 128.91(c).

(2) The mercury limitation is based upon effluent limitations for toxic substances. See 40 CFR 136.22 (b) and (c).

(3) For water quality standards for Martin Creek and Whitehall Bay, See 40 CFR 42.66 et. seq. Both are classified for the following uses: Industrial use, navigational use, contact recreation, and propagation of fish and wildlife.

Written comments. Interested persons are invited to submit written comments upon the proposed discharge and the Director's proposed determinations. Comments should be submitted by September 12, 1973, either in person or by mail to:

Director, Division of Water Quality and Resources, Attention: Office of Permit Processing, 1616 Courthouse Drive, Capital City, State (ZIP).

The application number should appear next to the above address on the envelope and on the first page of any submitted comments. All comments received by September 12, 1973, will be considered in the formulation of final determinations. If no written objections are received, the Director will issue his final determinations no later than 60 days following the date of this notice.

Information and copying. Persons wishing further information may write to the above address or call the Office of Permit Processing at 307 445-8922. Copies of the application, proposed permit including proposed effluent limitations and special conditions, comments received, and other documents (other than those which the Director maintains as con-

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fidential) are available at the Office of Permit Processing for inspection and copying. A copying machine is available for public use at a charge of $0.15 per copy sheet.

Register of interested persons. Any person interested in a particular application or group of applications may leave his name, address, and phone number as part of the file for an application. The list of names will be maintained as a means for persons with an interest in an application to contact others with similar interests.

Public hearings. If submitted comments indicate a significant public interest in the application or if he believes useful information may be produced thereby, the Director, in his discretion, may hold a public hearing on the application. Any person may request the Director to hold a public hearing on the application.

Public notice of a hearing will be circulated at least 30 days in advance of the hearing. The hearing will be held in the vicinity of the discharge. Thereafter, the Director will formulate his final determinations within 60 days. Further information regarding the conduct and nature of public hearings concerning discharge permits may be obtained by writing or visiting the Office of Permit Processing, 1616 Courthouse Drive, Capital City, State (zip).

APPENDIX C

SAMPLE PUBLIC NOTICE FOR PUBLIC HEARINGS HELD IN REGARD TO NPDES APPLICATIONS

DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF WATER QUALITY AND RESOURCES, 1616 COURTHOUSE DRIVE, CAPITAL CITY, STATE (ZIP) 307-445-8922

[Public Notice No. OPP-72-301-PH-24; Application No. CIY-400-60-301]

NOTICE—ANNOUNCEMENT OF PUBLIC HEARING ON APPLICATION OF ACME PAPER PRODUCTS TO DISCHARGE POLLUTANTS INTO MARTIN CREEK NEAR WHITEHALL BAY, CAPE ROCKAWAY, EDWARDS COUNTY, STATE

Acme Paper Products, Inc., 11345 North Fremont Street, Cape Rockaway, State (ZIP), has applied for a Department of Environmental Protection permit to discharge pollutants into Martin Creek one-half mile upstream from Whitehall Bay. The discharge and the Department's proposed determinations have been previously described in Public Notice No. OPP-72-301, dated August 12, 1973. Due to numerous comments received concerning the application, the filing of several petitions requesting a hearing, and the likelihood that information may be presented which will assist the Department in the formulation of final determinations regarding the application, the Director of the Department of Environmental Protection will hold a public hearing at the time and place stated below:

Hearing to be held at 7 p.m., on September 30, 1973, in Center High School Gymnasium, 2171 Furlong Avenue, Cape Rockaway, State (ZIP).

Some of the issues to be considered at the hearing are as follows:

(1) Do the Department's proposed effluent limitations for the applicant's discharge No. 002 represent a proper application of industrial effluent guidelines to the applicant's industrial processes.

(2) Do related water quality or environmental factors require the specification of stricter effluent limitations, additional requirements, or particular methods of treatment or control. In particular,

(a) Will the Department's proposed effluent limitations, if met, restore uncontaminated shellfish populations in Whitehall Bay (water quality standards classify Whitehall Bay for propagation of fish and shellfish).

(b) Does contamination of subsurface wells and water supplies of adjacent home and cottage owners result from leaks in applicant's treatment lagoons. If so, does the Department have the authority to require the applicant (i) to repair the leaks, and (ii) to compensate the adjacent home and cottage owners for damages resulting from the contamination of the subsurface wells and water supplies.

(c) Does the Department have the authority to control the manner in which the applicant utilizes adjoining marshes and wetlands as additional treatment lagoons in order to meet the Department's proposed effluent limitations. If so, what measures can be taken by the applicant to minimize any harmful effects to adjoining wetlands and fish and wildlife habitats therein.

All interested parties are invited to be present or to be represented to express their views on these and other issues relating to the above application. Parties making presentations are urged to address their statements to the above stated issues. Oral statements will be heard, but, for the accuracy of the record, all important testimony should be submitted in writing. Oral statements should summarize any extensive written material so there will be time for all interested parties to be heard.

The application, related documents, the Department's proposed limitations, and all comments and petitions received are on file and may be inspected and copied in Room 814, 1616 Court House Drive, Capital City, State (ZIP), at any time between 8:15 a.m. and 4:45 p.m., Monday through Friday. Copies of public notice OPP-72-301 are available at the above address or by calling the Office of Permit Processing at 307—445-8922.

Please bring the foregoing to the attention of persons whom you know would be interested in this matter.

[FR Doc.72-21987 Filed 12-21-72;8:45 am]

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V.2

TUESDAY, MAY 22, 1973
WASHINGTON, D.C.
Volume 38 ■ Number 98

PART III

federal register

ENVIRONMENTAL PROTECTION AGENCY

■

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

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Title 40—Protection of the Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

SUBCHAPTER D—WATER PROGRAMS

PART 125—NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

On January 11, 1973, notice was published in the FEDERAL REGISTER (38 FR 1362) that the Environmental Protection Agency was proposing policies and procedures for the National Pollutant Discharge Elimination System (NPDES) pursuant to sections 402 and 405 of the Federal Water Pollution Control Act Amendments of 1972 (86 Stat. 816; 33 U.S.C. 1251et, 1972) (hereinafter referred to as the Act). See the preamble of the proposed rulemaking for a description of the purposes of the regulations.

Written comments on the proposed rulemaking were invited and received from interested parties. A number of verbal comments also were received. The Environmental Protection Agency has carefully considered all submitted comments. All written comments are on file with the Agency. Certain of these comments have been adopted or substantially satisfied by editorial changes, deletions from, or additions to the regulations. These and other principal changes are discussed below.

a. Many commenters pointed out that the permit program conducted on the Federal level should not be inconsistent with the guidelines for State permit programs, as promulgated by the Agency on December 18, 1972. Some of the major changes made to meet this requirement are:

(1) The signatory requirements have been modified to allow authorized representatives and other responsible parties to sign NPDES forms. (See § 125.12.)

(2) Draft permits are now prepared and are made available to the public before the final permit is prepared. (See § 125.31.)

(3) Mailing lists will now be maintained for people to receive copies of fact sheets and public notices without the necessity of requesting each fact sheet following public notice. (See §§ 125.32 and 125.33.)

(4) Fact sheets are only required for discharges exceeding 500,000 gallons on any day of the year. (See § 125.32.)

(5) Procedures for handling confidential information have been changed to conform to EPA regulations for the handling of such data pursuant to 40 CFR 2. (See § 125.35.)

(6) Schedules of compliance must now be set so that, to the maximum extent practicable, the final and interim dates fall on the last day of the months of March, June, September, and December. Also, Regional Administrators must prepare a list of all instances of noncompliance and this list shall be available to the public. (See § 125.32.)

(7) Schedules of compliance may now be extended, after public notice, by the Regional Administrator where good and valid cause (such as act of God, strike, flood, etc.) exists for the failure to comply with the schedule. (See § 125.32.)

(8) Permits may now be transferred without the prior written approval of the Regional Administrator. (See § 125.32.)

(9) A new condition of every permit now requires that any discharge must be consistent with toxic effluent standards or prohibitions when they are promulgated under section 307(a) of the Act. (See § 125.32.)

b. Revisions other than those concerning consistency with the State guidelines for the permit program.

(1) The regulations, in several places, make clear that permit issuing authority for Federal facilities cannot be delegated to the States. (See § 125.5 (a) and (b).)

(2) The filing date requirements were clarified to provide that the Regional Administrators could allow later filing dates upon request of an applicant. (See § 125.12(d).)

(3) The provision that site visits be accomplished and requested information be received within 60 days was changed to allow the receipt of the information or the accomplishment of the site visit to be arranged within 60 days. (See § 125.13.)

(4) Major changes were made concerning the procedures to be followed with respect to fish and wildlife interests. The procedures now require Regional Administrators to meet with appropriate officials of the Departments of Interior and Commerce to determine what applications the fish and wildlife interests will receive automatically, and those agencies may then comment within 30 days on appropriate conditions for inclusion in the permit. (See § 125.14.)

(5) The requirement that Regional Administrators must first check with certifying agencies at the end of the allotted period of time for certification before determining that a waiver has occurred, has been deleted to avoid delay. (See § 125.15.)

(6) A new § 125.42(b) has been added to show the relationship of the Refuse Act, 33 U.S.C. 407, to the NPDES.

(7) The hearings and appeals section has been substantially modified to provide for adjudicatory hearings. Consistent with the purposes of section 161(e) of the Act, public hearings are also provided for. (See § 125.32.)

(8) It is now clearly pointed out that inspections of monitoring equipment, sampling methods, etc., must be accomplished at reasonable times. (See § 125.32.)

(9) The requirement that permittees agree to comply with all the terms and conditions of the permit in writing has been deleted since it was believed that it was unnecessary and only confused the issue during the period before signature. (See § 125.32.)

(10) Public notices will now require a statement of whether the application pertains to a new or existing discharge. This will better describe the discharge. (See § 125.32.)

(11) Public notices will now require, where appropriate, a statement that confidential information has been received that may be used to determine appropriate conditions of a permit when such confidential information has been received. This change will make proposed terms and conditions of permits more understandable.

(12) The delegation of authority in § 125.5 has been modified to substantially increase the delegation of authority to Regional Administrators. This change will enable the program to operate closer to the discharges while still retaining necessary authorities in the Administrator.

(13) The exclusions from the requirement to apply for an NPDES permit have been changed to accomplish the following (see § 125.4):

(i) The exclusion of deposits into publicly owned treatment works is clarified and now included within the "Exclusions section." This was implied in the proposed rulemaking but is explicit now;

(ii) Most discharges from vessels to inland waters are now clearly excluded from the permit requirements. This type of discharge generally causes little pollution and exclusion of vessel wastes from the permit requirements will reduce administrative costs drastically;

(iii) Discharges of sewage sludge and all other pollutants from vessels to the territorial sea, the contiguous zone, and the ocean will be covered by the permit program established by the Marine Protection Research and Sanctuaries Act of 1972 (Public Law 92-532).

(iv) Uncontrolled discharges composed entirely of stormwater are excluded from the permit requirements unless they are determined to be significant contributors of pollution.

(14) The definition of "trade secrets" has been deleted.

(15) The definition of "navigable waters" has been clarified by incorporating additional language.

(16) The requirement that joint Federal-State public notice agreements be published in the FEDERAL REGISTER has been deleted. Now, any agreement consistent with the regulations is valid without publication.

Because of the importance of promptly making known to other Federal Agencies, States, dischargers, environmentalists, and other interested persons the content of these regulations and because of the need to issue permits promptly, the Administrator finds good cause to declare the regulations effective immediately upon publication.

Dated May 16, 1973.

ROGERS W. FRI,
Acting Administrator.

Subpart A—General

Sec.	
125.1	Definitions.
125.2	Scope and purpose.
125.3	Law authorizing permits.
125.4	Exclusions.
125.5	Delegation of authority.

Subpart B—Processing of Permits

125.11	General provisions.
125.12	Application for a permit.
125.13	Access to facilities.
125.14	Distribution of application and permit.
125.15	State certification.

Subpart C—Terms and Conditions of Permits

Sec.
125.31 Prohibitions.
125.32 Conditions of permits.
125.33 Schedules of compliance.
125.34 Effluent limitations in permits.
125.35 Duration of permits.
125.36 Special categories of permits.
125.37 Monitoring, recording, and reporting.

Subpart D—Notice and Public Participation

125.31 Preparation of tentative determinations and draft permits.
125.32 Public notice.
125.33 Fact sheets.
125.34 Hearings and appeals.
125.35 Public access to information.

Subpart E—Miscellaneous

125.41 Objections to permit by another State.
125.42 Other legal actions.
125.43 Environmental impact statements.
125.44 Final decision of the Regional Administrator.

AUTHORITY.—Secs. 402 and 405 of the Federal Water Pollution Control Act Amendments of 1972 (86 Stat. 816 et seq.; Public Law 92-500, 33 U.S.C. 1342(a)).

Subpart A—General

§ 125.1 Definitions.

Except as otherwise specifically provided:

(a) The term "Act" means the Federal Water Pollution Control Act, as amended, Public Law 92-500, 33 U.S.C. 1251et.

(b) The term "Administrator" means the Administrator of the U.S. Environmental Protection Agency.

(c) The term "applicable effluent standards and limitations" means all State and Federal effluent standards and limitations to which a discharge is subject under the Act, including, but not limited to, effluent limitations, standards of performance, toxic effluent standards and prohibitions, and pretreatment standards.

(d) The term "applicable water quality standards" means all water quality standards to which a discharge is subject under the Act and which have been (1) approved or permitted to remain in effect by the Administrator pursuant to section 303(a) or section 303(c) of the Act, or (2) promulgated by the Administrator pursuant to section 303(b) or section 303(c) of the Act.

(e) The term "applicant" means an applicant for an NPDES permit.

(f) The term "contiguous zone" means the entire zone established or to be established by the United States under article 24 of the Convention of the Territorial Sea and the Contiguous Zone.

(g) The term "discharge" when used without qualification includes a discharge of a pollutant and a discharge of pollutants.

(h) The term "discharge of pollutant" and the term "discharge of pollutants" each means (1) any addition of any pollutant to navigable waters other than the territorial sea, from any point source, (2) any addition of any pollutant to the waters of the territorial sea, the contiguous zone or the ocean from any point source other than a vessel or other floating craft.

(i) The term "effluent limitations" means any restriction established by a State or the Administrator on quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources into navigable waters, the waters of the contiguous zone or the ocean, including schedules of compliance.

(j) The term "Environmental Protection Agency" means the U.S. Environmental Protection Agency.

(k) The term "interstate agency" means an agency of two or more States established by or pursuant to an agreement or compact approved by the Congress, or any other agency of two or more States, having substantial powers or duties pertaining to the control of pollution as determined and approved by the Administrator.

(l) The term "minor discharge" means any discharge which (1) has a total volume of less than 50,000 gallons on every day of the year, (2) does not affect the waters of more than one State and (3) is not classified by the State water pollution control agency, the Regional Administrator, or by the Administrator in regulations issued pursuant to section 307(a) of the Act, as a discharge which is not a minor discharge. If there is more than one discharge from a facility and the sum of the volumes of all discharges from the facility exceeds 50,000 gallons on any day of the year, then no discharge from the facility is a minor discharge as defined herein.

(m) The term "municipality" means a city, town, borough, county, parish district, association, or other public body created by or pursuant to State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the Act.

(n) The term "National Pollutant Discharge Elimination System" (hereinafter referred to as "NPDES") for the purpose of these regulations means the system for issuing, conditioning, and denying permits for the discharge of pollutants from point sources into the navigable waters, the contiguous zone, and the oceans, by the Administrator of the Environmental Protection Agency pursuant to sections 402 and 405 of the Act.

(o) The term "navigable waters" includes:

(1) All navigable waters of the United States;

(2) Tributaries of navigable waters of the United States;

(3) Interstate waters;

(4) Intrastate lakes, rivers, and streams which are utilized by interstate travelers for recreational or other purposes;

(5) Intrastate lakes, rivers, and streams from which fish or shellfish are taken and sold in interstate commerce; and

(6) Intrastate lakes, rivers, and streams which are utilized for industrial purposes by industries in interstate commerce.

(p) The term "new source" means any building, structure, facility or installation from which there is or may be a discharge of pollutants, the construction of which is commenced after the publication of proposed regulations prescribing a standard of performance under section 306 of the Act, which will be applicable to such source, if such standard is thereafter promulgated in accordance with section 306.

(q) The term "NPDES application short form" or "short form" means one or more, as appropriate, of the following:

(1) Short form A—Municipal Wastewater Dischargers.

(2) Short form B—Agriculture.

(3) Short form C—Manufacturing Establishments and Mining.

(4) Short form D—Services, Wholesale, and Retail Trade, and All Other Commercial Establishments, Including Vessels, Not Engaged in Manufacturing or Agriculture.

(r) The term "NPDES application standard form" or "standard form" means one or more, as appropriate, of the following:

(1) Standard form A—Municipal.

(2) Standard form C—Manufacturing and Commercial.

(s) The term "NPDES application form" includes NPDES application short forms and NPDES application standard forms.

(t) The term "ocean" means any portion of the high seas beyond the contiguous zone.

(u) The term "permit" means any permit or equivalent document or requirement issued to regulate the discharge of pollutants.

(v) The term "person" means an individual, corporation, partnership, association, State, municipality, commission, or political subdivision of a State, or any interstate body.

(w) The term "point source" means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged.

(x) The term "pollutant" means dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into water. It does not mean (1) "sewage from vessels" or (2) water, gas, or other material which is injected into a well to facilitate production of oil or gas, or water derived in association with oil or gas production and disposed of in a well, if the well used either to facilitate production or for disposal purposes is approved by authority of the State in which the well is located, and if such State determines that such injection or dis-

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posal will not result in the degradation of ground or surface water resources.

Comment.—The legislative history of the Act makes it clear that the term "navigable waters" as limited within the definition of "pollutant" in section 502 of the Act covers only radioactive materials which are not encompassed in the definition of source, special nuclear, or byproduct materials as defined by the Atomic Energy Act of 1954, as amended, and regulated pursuant to the latter Act. Examples of radioactive materials not covered by the Atomic Energy Act and, therefore, included within the term "pollutant" are radium and accelerator produced isotopes. (H.R. Rep. 92-911, 92d Cong., 2d Sess., 121, March 11, 1972; 117 Cong. Rec. 37601, daily ed., November 3, 1971; 118 Cong. Rec. 9118, daily ed., October 4, 1972.)

(y) The term "pollution" means the man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of water.

(z) The term "Regional Administrator" means one of the Regional Administrators of the United States Environmental Protection Agency.

(aa) The term "schedule of compliance" means a schedule of remedial measures including an enforceable sequence of actions or operations leading to compliance with an effluent limitation, other limitation, prohibition, or standard.

(bb) The term "sewage from vessels" means human body wastes and the wastes from toilets and other receptacles intended to receive or retain body wastes that are discharged from vessels.

(cc) The term "sewage sludge" means the solids and precipitation separated from municipal sewage and industrial wastes of a liquid nature by the unit processes of a treatment works.

(dd) The term "State" means a State, the District of Columbia, Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Trust Territory of the Pacific Islands.

(ee) The term "State water pollution control agency" means the State agency designated by the Governor having responsibility for enforcing State laws relating to the abatement of pollution.

(ff) The term "territorial seas" means the belt of the sea measured from the line of ordinary low water along that portion of the coast which is in direct contact with the open sea and the line marking the seaward limit of inland waters, and extending seaward a distance of 3 miles.

(gg) The term "treatment works" means any facility, method or system for the storage, treatment, recycling, or reclamation of municipal sewage or industrial wastes of a liquid nature, including waste in combined storm water and sanitary sewer systems.

§ 125.2 Scope and purpose.

(a) (1) The regulations in this part prescribe the policy and procedures to be followed in connection with applications for federally issued permits authorizing discharges into the navigable waters, the waters of the contiguous zone, and the oceans, during the periods that the Administrator of the Environmental Protection Agency is authorized to issue such permits pursuant to sections 402 and 403 of the Act.

(2) The regulations in this part also prescribe the policy and procedures to be followed in connection with permits authorizing discharges into the navigable waters, the waters of the contiguous zone, and the oceans from any agency or instrumentality of the Federal Government and from any Indian activity on Indian lands.

(3) The regulations in this part do not prescribe policy or procedures for the issuance of permits by States under programs approved by the Administrator pursuant to section 402(b) of the Act. Such State programs do not cover agencies and instrumentalities of the Federal Government and Indian activities on Indian lands under the jurisdiction of the United States.

§ 125.3 Law authorizing permits.

(a) Section 301(a) of the Act provides that "Except as in compliance with this section and sections 302, 306, 307, 318, 402, and 404 of this Act, the discharge of any pollutant by any person shall be unlawful."

(b) Section 402 of the Act establishes the NPDES. This section provides, in part, that "the Administrator may, after opportunity for public hearing, issue a permit for the discharge of any pollutant, or combination of pollutants, . . . upon condition that such discha...ge will meet either all applicable requirements under sections 301, 302, 306, 307, 308, and 403 of [the] Act, or prior to the taking of necessary implementing actions relating to all such requirements, such conditions as the Administrator determines are necessary to carry out the provisions of [the] Act."

(c) Section 405 of the Act prohibits the disposal of sewage sludge where any pollutant from such sludge would enter navigable waters except in accordance with a permit issued by the Administrator under section 402. This section provides in part that "In any case where the disposal of sewage sludge resulting from the operation of a treatment works . . . (including the removal of in-place sewage sludge from one location and its deposit at another location) would result in any pollutant from such sewage sludge entering the navigable waters, such disposal is prohibited except in accordance with a permit issued by the Administrator under this section."

(d) Unless specifically noted to the contrary, all provisions of these regulations concerning permits under section 402 of the Act are applicable to permits under section 405 of the Act.

§ 125.4 Exclusions.

The following do not require an NPDES permit:

(a) Any discharge of sewage from vessels, effluent from properly functioning marine engines, laundry, shower, and galley sink wastes, or any other discharge incidental to the normal operation of a vessel: *Provided*, That this exclusion shall not be construed to apply to rubbish, trash, garbage, or other such materials discharged overboard; nor to discharges when the vessel is operating in a capacity other than a vessel such as when a vessel is being used as a storage facility or a cannery;

(b) Water, gas, or other material which is injected into a well to facilitate production of oil or gas, or water derived in association with oil or gas production and disposed of in a well, if the well used either to facilitate production or for disposal purposes is approved by authority of the State in which the well is located and if such State determines that such injection or disposal will not result in the degradation of ground or surface water resources;

(c) Approved aquaculture projects;

(d) Dredged or fill material discharged into navigable waters;

(e) Additions of sewage, industrial wastes or other materials into publicly owned treatment works. (This exclusion applies only to the actual addition of materials into the publicly owned treatment works. Plans or agreements to make such additions in the future do not relieve dischargers of the obligation to apply for and receive permits until the discharges of pollutants to navigable waters are actually eliminated. It also should be noted that in all appropriate cases, pretreatment standards promulgated by the Administrator pursuant to section 307(b) of the Act must be complied with.);

(f) Uncontrolled discharges composed entirely of storm runoff when these discharges are uncontaminated by any industrial or commercial activity, unless the particular storm runoff discharge has been identified by the Regional Administrator, the State water pollution control agency or an interstate agency as a significant contributor of pollution. (It is anticipated that significant contributors of pollution will be identified in connection with the development of plans pursuant to section 208(a) of the Act. This exclusion applies only to separate storm sewers. Discharges from combined sewers and bypass sewers are not excluded.)

(g) Any discharge of any pollutant when such discharge conforms with the national contingency plan for removal of oil and hazardous substances, published pursuant to subsection 311(c)(2) of the act.

§ 125.5 Delegation of authority.

(a) Subject to the appeal provisions of § 125.34 of these regulations and the national security responsibility provision of § 125.35(c) of these regulations, the following authorities are hereby delegated to each of the Regional Administrators for the area which he administers.

(1) The authority to issue and condition permits or to deny applications for permits for discharges covered by the NPDES and by section 403 of the act.

(2) The authority pursuant to section 402(d)(1) of the act to receive from a State a copy of each permit application received by such State and to receive notice of every action related to the consideration of such permit applications, including each permit proposed to be issued by such State.

(3) The authority pursuant to section 402(d)(2)(A) of the act to object in writing to the issuance of any permit within 90 days of the date of his notification under section 402(b)(5) of the act.

(4) The authority pursuant to section 402(d)(2)(B) of the act to object in writing within 90 days of his receipt of a proposed permit from a State where finds that the issuance of such permit would be outside of the guidelines and requirements of the Act.

(5) The authority granted to the Administrator by section 308(a), and if exercised in conformance with § 136.36 of these regulations, section 308(b) of the Act is hereby delegated to each of the Regional Administrators for the area which he administers.

(c) These authorities may be redelegated to the Director, Enforcement Division, of each region.

Subpart D—Processing of Permits

§ 125.11 General provisions.

(a) All discharges of pollutants or combination of pollutants from all point sources into the navigable waters, the waters of the contiguous zone, or the ocean are unlawful and subject to the penalties provided by the Act, unless the discharger has a permit or is specifically relieved by law or regulation from the obligation of obtaining a permit. A discharge authorized by a permit must be consistent with the terms and conditions of such permit. Discharges in violation of permit terms and conditions may result in the institution of proceedings under the Act.

(b) The decision as to whether or on what conditions a permit authorizing a discharge will issue will be based upon an evaluation as to how such discharge will meet applicable requirements under the Act and other applicable laws and regulations. Subsequent to the taking of necessary implementing actions relating to such requirements, all dischargers in order to receive a permit must meet the applicable requirements of sections 301, 302, 306, 307, 308, and 403, and all regulations pertaining thereto.

(c) In the period of time prior to the taking of necessary implementing actions relating to all applicable requirements under sections 301, 302, 306, 307, 308, and 403 of the Act, the Administrator may issue permits under such conditions as he determines are necessary to carry out the provisions of the Act. Any permit issued shall include any conditions and limitations necessary to insure compliance with any applicable requirements of sections 301, 302, 306, 307, 308, and 403 that become applicable prior to the issuance of the permit. Foremost among other factors to be considered prior to the taking of the necessary implementing actions is the requirement for abatement measures designed to achieve, not later than July 1, 1977, best practicable (waste) control technology currently available for the particular point source (other than publicly owned treatment works) as determined by the Regional Administrator based upon information available to him and his professional judgment taking into account the intent of sections 301, 302, 306, 307, 308, and 403 of the Act. Likewise, publicly owned treatment works must achieve secondary treatment by July 1, 1977, or in accordance with the period specified in section 301(b)(1)(B) of the Act. Furthermore, any permit issued shall include any more stringent condition pursuant to section 301(b)(1)(C) of the Act as is necessary to insure compliance with any limitation, including those necessary to meet applicable water quality standards, treatment standards, or schedules of compliance, established pursuant to any State law or regulation (under authority preserved by section 510 of the Act) or any other Federal law or regulation, or required to implement any applicable water quality standard established pursuant to the Act. Plans prepared pursuant to section 208(c) of the Act or similar analyses, if available, should be employed in establishing such more stringent conditions. The likely impact or the existing impact of the discharge on the quality and uses of the receiving body of water where no adequate water quality standards exist also will have to be taken into account. The possibility of occurrence and the probability of effects of spills of materials from the point source shall be considered. The objections of any State or interstate agency whose waters may be affected by the discharge shall be duly considered when making any permit decision.

(d) Any permit issued for the discharge of pollutants into the navigable waters from a vessel or other floating craft shall be subject to any applicable regulations promulgated by the Secretary of the department in which the Coast Guard is operating, establishing specifications for safe transportation, handling, carriage, storage, and stowage of pollutants.

§ 125.12 Application for a permit.

(a) An applicant for a permit may secure the required application form(s) from the Regional Administrator. Application form(s) must be filed with the Regional Administrator.

(b) Any person who applied for a permit under the Refuse Act permit program operating under rules promulgated in the FEDERAL REGISTER on April 7, 1971, 33 CFR 209.131 and whose application has not been denied is not required to apply for a permit under these regulations unless the discharge described in the application for a Refuse Act permit has substantially changed in nature, volume, or frequency. Such Refuse Act permit application shall be considered to be an application under the NPDES and shall be treated accordingly.

(c) Any person now discharging whose discharge was not covered by the Refuse Act permit program but which is now subject to the NPDES must apply for a permit on or before April 16, 1973.

(d) Any person whose discharge began or will begin during the period of October 18, 1972, through July 18, 1973, inclusive, must apply for a permit not later than 90 days in advance of the date on which the discharge is to commence unless permission for a later application date has been granted by the Regional Administrator.

(e) Any person whose discharge will begin on or after July 18, 1973, must apply for a permit no later than 180 days in advance of the date on which the discharge is to commence unless permission for a later application date has been granted by the Regional Administrator.

(f) An application submitted by a corporation must be signed by a principal executive officer of at least the level of vice president, or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge described in the application form originates. In the case of a partnership or a sole proprietorship the application must be signed by a general partner or the proprietor respectively. In the case of a municipal, State, Federal or other public facility, the application must be signed by either a principal executive officer, ranking elected official, or other duly authorized employee.

(g) Except as provided in § 125.13 (b) and (h)(4) and except as provided by the Administrator in regulations issued under the act, any person discharging or who proposes to discharge pollutants shall complete, sign, and submit an NPDES application short form in accordance with the instructions provided with such form.

(h)(1) If the information submitted by an applicant for an NPDES permit in Short Form A (relating to municipal wastewater treatment facilities) or any other information available to the Regional Administrator indicates any of the following, the applicant shall be required to complete, sign and submit a Standard Form A:

(i) The discharges from the facility have a total volume of more than 5 million gallons on any day of the year;

(ii) The facility serves a population in excess of 10,000; or

(iii) The facility receives wastes from an industrial user and such wastes

(A) Have a total volume of more than 50,000 gallons on any day of the year,

(B) Contain toxic pollutants,

(C) Have a total volume which constitutes more than 1 percent of the volume of the total discharge from the facility on any day of the year, or

(D) In combination with other discharges into the facility interfere with the operation of the facility or adversely affect the quality of the discharge from the facility.

(2) If the information submitted by an applicant for a permit on Short Form

C (relating to manufacturing establishments and mining) or in Short Form D (relating to services, wholesale and retail trade, and all other commercial establishments, including vessels, not engaged in manufacturing or agriculture) or any other information available to the Regional Administrator indicates any of the following, the applicant shall be required to complete, sign, and submit a Standard Form C:

(i) The discharges from the facility have a total volume of 50,000 gallons on any day of the year;

(ii) The discharges affect the water of any State other than the State of origin; or,

(iii) The discharges contain or may contain toxic pollutants.

(2) In addition to paragraph (b)(1) or (2) of this section, an applicant shall complete, sign, and submit the appropriate standard form if the Regional Administrator determines that such submission is necessary to determine whether or not and upon what conditions a permit should be issued for the discharges identified in the short form.

(4) Any applicant may submit a standard form without prior submission of a short form if he complies with all applicable filing dates and requirements.

(i)(1) Upon submission of an NPDES application short form to the Regional Administrator an applicant shall pay a fee of $10 per application.

(2) Upon submission of an NPDES application standard form to the Regional Administrator an applicant shall pay a fee of $100 per application. If there is more than one outlet from which the discharge will flow, an additional $50 will be charged for each additional outlet.

(3) Any applicant submitting an NPDES application standard form to the Regional Administrator who previously filed an NPDES application short form with the Regional Administrator may deduct from the fee submitted with the standard form the amount previously submitted with the short form.

(4) If an applicant submits an NPDES application standard form to the Regional Administrator without prior submission of an NPDES application short form pursuant to § 125.13(b)(2), he shall pay the fee specified in paragraph (i)(2) of this section without the submission or deduction of the fee specified in paragraph (i)(1) of this section.

(5) Agencies or instrumentalities of Federal, State, or local governments will not be required to pay any fee in connection with the filing of an NPDES application.

(6) Checks and money orders shall be made out to the order of Environmental Protection Agency.

(j) Permittees who wish to continue to discharge subsequent to the expiration date of their permit must apply for reissuance of the permit using proper forms, not less than 180 days prior to the permit expiration date.

§ 125.13 Access to facilities and further information during evaluation of the application.

Permit application forms are designed to fit the normal situation for most facilities in the United States. In many cases however, further information, and site visits may be necessary in order to evaluate the discharge and accurately and accurately. When the Regional Administrator determines that either further information or a site visit is necessary in order for the Environmental Protection Agency to evaluate the discharge, he shall so notify the applicant, and in addition provide a date no later than 90 days hence by which these arrangements will have been made for receipt of the requested information, and/or scheduling of the site visit. In the event that a satisfactory response is not received the permit may be issued or denied and the applicant so notified. Sections 308, 309, and 402(k) of the act provide for sanctions in the event of noncompliance with reasonable requests for additional information.

§ 125.4 Distribution of application and permit.

(a) When an application for a permit is received Regional Administrators shall determine if the applicant has provided all of the information required by the application form and by this section.

(b) In order to assure that the Secretary of the Army acting through the Chief of Engineers has adequate time to evaluate the impact of the proposed discharge on anchorage and navigation, Regional Administrators will forward to the District Engineer in the appropriate district one copy of the application form immediately upon its receipt in the regional office in completed form. Accompanying the application will be notice that the Environmental Protection Agency has received a request for a permit to discharge and that the District Engineer has a stated number of days to evaluate the impact of granting such permit upon anchorage and navigation and to advise the Regional Administrator of his evaluation. District Engineers of the Corps of Engineers will normally be given 90 days to evaluate the impact on anchorage and navigation. Where the Regional Administrator finds that less time should be allowed he should so advise the District Engineer of such lesser period of time while at the same time outlining his reasons for such lesser period of time. In all cases the Regional Administrator should advise the District Engineer that failure to answer within the allotted period of time will be deemed to be a finding that anchorage and navigation will not be substantially impaired by granting of this permit. Where the District Engineer advises the Regional Administrator that anchorage and navigation of any of the navigable waters would be substantially impaired by the granting of a permit, such permit will be denied and the applicant shall be so notified. Where the District Engineer advises the Regional Administrator that the imposition of specified conditions upon the permit is necessary to avoid any substantial impairment of any of the navigable waters, then the Regional Administrator shall include in the permit those conditions so specified by the District Engineer. Where the District Engineer notifies the Regional Administrator that more time is needed for his evaluation more time will be granted where it appears that the public interest warrants such extension.

(c) Upon receipt of an application which does not include a State certification where such certification is required by section 401 of the Act, the Regional Administrator will make available one copy of the application form to the State water pollution control agency for the State in which the discharge occurs or will occur. Accompanying the application will be a statement by the Regional Administrator that a request for a permit has been received by the Environmental Protection Agency, and that before the Agency can act upon such request, the State must (1) certify that the discharge will comply with the applicable provisions of sections 301, 302, 306, and 307 or (2) certify that there are no applicable effluent or other limitations under sections 301 and 302 and there are no applicable standards under sections 306 and 307, or (3) deny such certification or (4) waive its right to certify or to deny such certification. The Regional Administrator must also state that such certification or denial must be received within a specified reasonable period of time or a waiver will be deemed to have occurred.

(d) Upon receipt of an application from a Federal facility the Regional Administrator shall make one copy of the application form available to the State water pollution control agency for the State in which the discharge will occur. Accompanying the application will be statement by the Regional Administrator that a request for a permit has been received by the Environmental Protection Agency and that the Environmental Protection Agency would appreciate receiving from the State its comment on the discharge and any condition that the State would recommend applying to any permit that might issue for the discharge. The State should be requested specifically to provide what conditions it believes necessary in order that the discharge will comply with sections 301, 302, 306, 307, and 313 of the Act.

(e) Regional Administrators shall assist applicants for permits in coordinating the requirements of the Act with those of appropriate public health agencies.

(f) (1) Complete copies of all applications filed with the Environmental Protection Agency subsequent to June 1, 1973, shall be furnished to the Department of the Interior and Department of Commerce for comment, provided

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that these agencies may waive their right to review any permit applications or categories thereof. Regional Administrators shall meet with appropriate officials of the Department of Interior and Department of Commerce in order to reach agreement as to which existing applications forms (filed prior to June 1, 1973) these agencies are to receive. Complete copies of all application forms requested shall be made available to these agencies for comment. When an application is transmitted to these agencies, accompanying it will be a notice that the Environmental Protection Agency has received a request for a permit to discharge and that the agencies have a stated number of days in which to evaluate the impact of granting such permit upon the fish, shellfish, and wildlife resources of the State in which the discharge will occur, and to advise the Regional Administrator of their evaluations. The normal period of time to evaluate the effects of the discharge on fish, shellfish, and wildlife resources will be 30 days. In all cases the Regional Administrator should advise the agencies that failure to answer within the allotted period of time will be deemed to be a statement that the agencies do not choose to comment at this time. Where the agencies advise the Regional Administrator that the imposition of specified conditions upon the permit is necessary to avoid substantial impairment of the fish, shellfish, or wildlife resources, the Regional Administrator may include in the permit those conditions so specified by the agencies. Where the agency notifies the Regional Administrator that more time is needed for its evaluation more time will be granted where it appears to the Regional Administrator that the public interest warrants such extension.

(3) Similar arrangements should be agreed upon by appropriate officials of the Department of Interior and Regional Administrators concerning the review of permits which involve disposal of wastes to groundwater.

(g) If a permit issues, a copy of the permit and, if not previously transmitted, a copy of the application form shall be transmitted to the State in which the discharge is located. Copies of these documents shall be available for inspection and reproduction by the public in the regional office.

§ 125.15 State certification.

(a) Section 401(a)(1) of the Act, provides that "Any applicant for a Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters, shall provide the licensing or permitting agency a certification from the State in which the discharge originates or will originate, or, if appropriate, from the interstate water pollution control agency having jurisdiction over the navigable waters at the point where the discharge originates or will originate, that any such discharge will comply with the applicable provisions of sections 301, 302, 306, and 307 of the Act. In the case of any such activity for which there is not an applicable effluent limitation or other limitation under sections 301(b) and 302, and there is not an applicable standard under sections 306 and 307, the State shall so certify." Where certification is required, no license or permit shall be granted until the certification has been obtained or has been waived. A waiver occurs when the certifying agency fails or refuses to act on a request for certification, within a reasonable period of time (which shall not exceed 1 year) after receipt of such request. Three months shall generally be considered to be a reasonable period of time. If, however, special circumstances identified by the Regional Administrator require that action on a permit application be taken within a more limited period of time, the Regional Administrator shall determine a reasonable lesser period of time, advise the certifying agency of the need for action by a particular date and that, if certification is not received by the date established, it will be considered that the requirement for certification has been waived. Similarly, if it appears that circumstances may reasonably require a period of time longer than 3 months, the Regional Administrator may afford the certifying agency up to 1 year to provide the required certification before determining that a waiver has occurred. Where such extension of time is made at the request of the certifying agency, the request must be in writing and must include the reasons for the request.

(b) Any certification provided shall set forth any effluent limitations and other limitations, and monitoring requirements necessary to insure compliance with any applicable effluent limitations and other limitations under sections 301 or 302 of the Act, standard of performance under section 306 of the Act, or prohibition, effluent standard, or pretreatment standard under section 307 of the Act, and with any other appropriate requirement of State law set forth in such certification.

(c) Discharges from agencies or instrumentalities of the Federal Government, as provided in section 401(a)(6) of the Act, do not require certification pursuant to section 401.

Subpart C—Terms and Conditions of Permits

§ 125.31 Prohibitions.

(a) No permit shall be issued in cases where the applicant, pursuant to section 401 of the Act, is required to obtain a State or other appropriate certification that the discharge will comply with the applicable provisions of sections 301, 302, 306, and 307 and such certification was denied.

(b) No permit shall be issued where pursuant to section 401(a)(2) of the Act, the imposition of conditions cannot insure compliance with the applicable water quality requirements of all affected States.

(c) No permit shall be issued if, in the judgment of the Secretary of the Army acting through the Chief of Engineers, anchorage and navigation of any of the navigable waters would be substantially impaired by the discharge.

(d) No permit shall be issued for the discharge of any radiological, chemical, or biological warfare agent or high-level radioactive waste into the navigable waters.

(e) No permit shall be issued for any discharge from a point source in conflict with a plan or an amendment thereto approved pursuant to section 208(b) of the Act.

(f) No permit shall be issued for any discharge to the territorial sea, the waters of the contiguous zone, or the oceans, prior to the promulgation of guidelines under section 403(c) of the Act unless the Regional Administrator determines it to be in the public interest.

(g) No permit shall be issued for any discharge to the territorial sea, the waters of the contiguous zone, or the oceans, after promulgation of guidelines under section 403(c) except in compliance with such guidelines.

(h) No permit shall be issued for any discharge to the territorial sea, the waters of the contiguous zone, or the oceans, subsequent to the promulgation of guidelines pursuant to section 403(c) of the Act, where insufficient information exists to make a reasonable judgment as to whether the discharge complies with any such guidelines.

§ 125.32 Conditions of permits.

(a) Regional Administrators shall insure that the terms and conditions of all issued permits provide for and insure the following:

(1) That all discharges authorized by the permit shall be consistent with the terms and conditions of the permit; that facility expansions, production increases, or process modifications which result in new or increased discharges of pollutants must be reported by submission of a new application, or, if such discharge does not violate effluent limitations specified in the permit, by submission to the Regional Administrator of notice of such new or increased discharges of pollutants; that the discharge of any pollutant more frequently than or at a level in excess of that identified and authorized by the permit shall constitute a violation of the terms and conditions of the permit;

(2) That following notice and opportunity for a public hearing the permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:

(i) Violation of any terms or conditions of the permit;

(ii) Obtaining a permit by misrepresentation or failure to disclose fully all relevant facts; and,

(iii) A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge;

(3) That the permittee shall permit the Regional Administrator or his authorized representative, and/or the authorized representative of the State water pollution control agency in the case of non-Federal facilities, upon the presentation of his credentials:

(i) To enter upon the permittee's premises in which an effluent source is located or in which any records are required to be kept under terms and conditions of the permit;

(ii) To have access to and copy at reasonable times any records required to be kept under terms and conditions of the permit;

(iii) To inspect at reasonable times any monitoring equipment or method required in the permit; or

(iv) To sample at reasonable times any discharge of pollutants.

(4) That the permittee shall at all times maintain in good working order and operate as efficiently as possible any facilities or systems of control installed or utilized by the permittee to achieve compliance with the terms and conditions of the permit.

(5) The issuance of a permit does not convey any property rights either in real estate or material, or any exclusive privileges, nor does it authorize any injury to private property or invasion of rights, nor any infringement of Federal, State, or local laws or regulations; nor does it obviate the necessity of obtaining State or local assent required by law for the discharge authorized.

(6) That if a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under section 307(a) of the Act for a toxic pollutant which is present in the permittee's discharge and such standard or prohibition is more stringent than any limitation upon such pollutant in the permit, the Regional Administrator shall revise or modify the permit in accordance with the toxic effluent standard or prohibition and so notify the permittee.

(b) Permits shall also include such special conditions as are necessary to assure compliance with applicable effluent limitations or other water quality requirements including schedules of compliance, treatment standards, and such other conditions as the Regional Administrator considers necessary or appropriate to carry out the provisions of the Act. Permits shall also contain such other conditions as the District Engineer of the Corps of Engineers considers to be necessary to insure that navigation and anchorage will not be substantially impaired. Also, conditions recommended by State water pollution control officials, Federal and State fish, shellfish, and wildlife resources officials, or other governmental officials may be added to permits if the Regional Administrator believes such recommended conditions will aid in carrying out the purposes of the Act. Furthermore, all permits will be conditioned upon achieving compliance with any applicable effluent limitations and other limitations, and monitoring requirements set forth in any certification issued pursuant to section 401 of the Act.

§ 125.23 Schedules of compliance in permits.

Regional Administrators shall follow the procedures below in setting schedules of compliance in permits:

(a) With respect to any discharge which is not in compliance with applicable effluent standards and limitations, applicable water quality standards, and other applicable requirements, the permittee shall be required to take specific steps to achieve compliance with the following:

(1) Any schedule of compliance contained in:

(i) Applicable effluent standards and limitations; or,

(ii) Water quality standards, if more stringent; or,

(iii) Any other legally applicable requirements, if more stringent.

(2) In the absence of any applicable schedule of compliance, in the shortest reasonable period of time, such period to be consistent with the guidelines and requirements of the Act.

(b) In any case where the period of time for compliance specified in paragraph (a) of this section exceeds 9 months, a schedule of compliance shall be specified in the permit which will set forth interim requirements and the dates for their achievement; in no event shall more than 9 months elapse between interim dates. If the time necessary for completion of the interim requirement (such as the construction of a treatment facility) is more than 9 months and is not readily divided into stages for completion, interim dates shall be specified for the submission of reports of progress toward completion of the interim requirement. For each permit schedule of compliance, interim dates and the final date for compliance shall, to the extent practicable, fall on the last day of the months of March, June, September, and December.

(c) Not later than 14 days following each interim date and the final date of compliance the permittee shall provide the Regional Administrator with written notice of the permittee's compliance or noncompliance with the interim or final requirements.

(d) The Regional Administrator may, upon request of the applicant, and after public notice, revise or modify a schedule of compliance in an issued permit if he determines good and valid cause (such as an act of God, strike, flood, materials shortage, or other event over which the permittee has little or no control) exists for such revision. All revisions or modifications made pursuant to this subsection during the period ending 30 days prior to the date of preparation of such list, shall be included in the list prepared by the Regional Administrator pursuant to § 125.23(e) below.

(e) On the last day of the months of February, May, August, and November the Regional Administrator shall prepare a list of all instances, as of 30 days prior to the date of such report, of failure or refusal of a permittee to comply with an interim or final requirement or to notify the Regional Administrator of compliance or noncompliance with each interim or final requirement (as required pursuant to (b) above). Such list shall be available to the public for inspection and copying and shall contain at least the following information with respect to each instance of noncompliance:

(1) Name and address of each noncomplying permittee;

(2) A short description of each instance of noncompliance (e.g., failure to submit preliminary plans, 2-week delay in commencement of construction of treatment facility; failure to notify the Regional Administrator of compliance with interim requirement to complete construction by June 30, etc.);

(3) A short description of actions or proposed actions by the permittee or the Regional Administrator to comply or enforce compliance with the interim or final requirement; and

(4) Any details which tend to explain or mitigate an instance of noncompliance with an interim or final requirement (e.g., construction delayed due to materials shortage, plan approval delayed by objections from State fish and wildlife agency).

§ 125.24 Effluent limitations in permits.

(a) In the application of effluent standards and limitations, water quality standards, and other applicable requirements, the Regional Administrator shall, for each permit, specify average and maximum daily quantitative limitations for the level of pollutants in the authorized discharge in terms of weight (except pH, temperature, radiation, and any other pollutants not appropriately expressed by weight, and except for discharges whose constituents cannot be appropriately expressed by weight). The Regional Administrator may, in his discretion, in addition to the specification of daily quantitative limitations by weight, specify other limitations, such as average or maximum concentration limits, for the level of pollutants in the authorized discharge. Effluent limitations for multiproduct operations shall provide for appropriate waste variations from such plants. Where a schedule of compliance is included as a condition in a permit, effluent limitations shall be included for the interim period as well as for the period following the final compliance date.

(b) Notwithstanding any other provision in the regulations in this part, any point source the construction of which is commenced after the date of enactment of the Federal Water Pollution Control Act Amendments of 1972 and which is so constructed as to meet all applicable standards of performance (as defined in section 306 of the Act) shall not be subject to any more stringent standard of performance during a 10-year period beginning on the date of completion of such construction or during the period of depreciation or amortization of such facility for the purposes

of section 167 or section 169 (or both) of the Internal Revenue Code of 1954, whichever period ends first.

§ 125.25 Duration of permits.

(a) No permit will issue for a period longer than 5 years.

(b) Permits of less than 5 years' duration may issue in appropriate cases and Regional Administrators shall give great weight to the advice of State or interstate water pollution control officials on the appropriate duration for particular permits.

(c) All permits will be for a fixed term.

§ 125.26 Special categories of permits.

(a) Disposal of pollutants into wells.

(1) If an applicant for a permit is disposing or proposes to dispose of pollutants into wells as part of a program to meet the proposed terms and conditions of a permit, the Regional Administrator shall specify additional terms and conditions in the permit which shall (i) prohibit the disposal, or (ii) control the disposal in order to prevent pollution of ground and surface water resources and to protect the public health and welfare.

(2) The Regional Administrator shall utilize in his review of any permits proposed to be issued for the disposal of pollutants into wells, any policies, technical information, or requirements, specified by the Administrator in regulations issued pursuant to the Act or in directives issued to regional offices.

(b) Discharges from publicly owned treatment works.

(1) If the permit is for a discharge from a publicly owned treatment work, the Regional Administrator shall require the permittee to provide notice to the Regional Administrator of the following:

(i) Any new introduction of pollutants into such treatment works from a source which would be a new source as defined in section 306 of the Act if such source were discharging pollutants;

(ii) Any new introduction of pollutants which exceeds 10,000 gallons on any 1 day into such treatment works from a source which would be subject to section 301 of the Act if such source were discharging pollutants; and,

(iii) Any substantial change in volume or character of pollutants being introduced into such treatment works by a source introducing pollutants into such works at the time of issuance of the permit.

(2) Such notice shall include information on:

(i) The quality and quantity of effluent to be introduced into such treatment works, and,

(ii) Any anticipated impact of such change in the quantity or quality of effluent to be discharged from such publicly owned treatment works.

(3) The permittee shall require any industrial user of such treatment works to comply with the requirements of sections 204(b), 307, and 308 of the Act. Any industrial user subject to the requirements of section 307 of the Act shall be required by the permittee to prepare and transmit to the Regional Administrator periodic notice (ever intervals not to exceed 9 months) of progress toward full compliance with section 307 requirements.

(4) The permittee shall require any industrial user of storm sewers to comply with the requirement of section 308 of the Act.

§ 125.27 Monitoring, recording, and reporting.

(a) Any permit shall be subject to such monitoring requirements as may be reasonably required by the Regional Administrator, including the installation, use, and maintenance of monitoring equipment or methods (including, where appropriate, biological monitoring methods).

(b) Any discharge which:

(1) Is not a minor discharge; or

(2) The Regional Administrator requires to be monitored; or

(3) Contains toxic pollutants for which an effluent standard has been established by the Administrator pursuant to section 307(a) of the Act, shall be monitored by the permittee for at least the following:

(i) Flow (in gallons per day); and,

(ii) All of the following pollutants;

(A) Pollutants (measured either directly or indirectly through the use of accepted correlation coefficients or equivalent measurements) which are subject to reduction or elimination under the terms and conditions of the permit;

(B) Pollutants which the Regional Administrator finds, on the basis of information available to him, could have a significant impact on water quality;

(C) Pollutants specified by the Administrator, in regulations issued pursuant to the Act, as subject to monitoring;

(c) Each effluent flow or pollutant required to be monitored pursuant to paragraph (b) of this section shall be monitored at intervals sufficiently frequent to yield data which reasonably characterizes the nature of the discharge of the monitored effluent flow or pollutant. Variable effluent flows and pollutant levels may be monitored at more frequent intervals than relatively constant effluent flow and pollutant levels which may be monitored at less frequent intervals.

(d) The Regional Administrator shall specify recording requirements for any permit which requires monitoring of the authorized discharge consistent with the following:

(1) The permittee shall maintain records of all information resulting from any monitoring activities required of him in his permit;

(2) Any records of monitoring activities and results shall include for all samples;

(i) The date, exact place, and time of sampling;

(ii) The dates analyses were performed;

(iii) Who performed the analyses;

(iv) The analytical techniques/methods used; and

(v) The results of such analyses;

(3) The permittee shall be required to retain for a minimum of 3 years any records of monitoring activities and results including all original strip chart recordings for continuous monitoring instrumentation and calibration and maintenance records. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the permittee or when requested by the Regional Administrator.

(e) The Regional Administrator shall require periodic reporting (at a frequency of not less than once per year) on the proper NPDES reporting form of monitoring results obtained by a permittee pursuant to monitoring requirements in a permit. Such reporting periods, whose length shall be determined by the Regional Administrator shall end on the last day of March, June, September, and/or December.

Subpart D—Notice and Public Participation

§ 125.31 Formulation of tentative determinations and draft permits.

(a) The regional staff shall formulate and prepare tentative determinations with respect to a permit in advance of public notice of the proposed issuance or denial of the permit. Such tentative determinations shall include at least the following:

(1) A proposed determination to issue or to deny a permit for the discharge described in the application; and,

(2) If the determination proposed in paragraph (a)(1) of this section is to issue the permit, the following additional tentative determinations;

(i) Proposed effluent limitations for those pollutants proposed to be limited;

(ii) A proposed schedule of compliance, as provided in § 125.23 of these regulations, including interim dates and requirements, for meeting the proposed effluent limitations; and,

(iii) A brief description of any other proposed special conditions (other than those required by § 125.22(a) of the regulations in this part) which will have a significant impact upon the discharge described in the application.

(b) The regional staff shall organize the tentative determinations prepared pursuant to paragraph (a) of this section into a draft permit.

§ 125.32 Public notice.

(a) Public notice of every complete application for a permit shall be circulated in a manner designed to inform interested and potentially interested persons of the discharge and of the proposed determination to issue or to deny a permit for the discharge. Public notice of hearings shall be circulated in a manner designed to inform interested and potentially interested persons of the discharge and of the intention to hold a hearing on the matter of the proposal to issue or deny a permit for the discharge. Procedures for the circulation of public notice shall include at least the following:

(1) Notice shall be circulated within the geographical area of the proposed discharge; such circulation shall include any one of the following:

(i) Posting in the post office and public places of the municipality nearest the premises of the applicant in which the effluent source is located;

(ii) Posting near the entrance to the applicant's premises and in nearby places; or

(iii) Publishing in local newspapers and periodicals, or, if appropriate, in a daily newspaper of general circulation; except that public notice of hearings shall be published in at least one newspaper of general circulation within the geographical area of the discharge in all cases.

(2) Notice shall be mailed to the applicant and to any person or group upon request; and

(3) The Regional Administrator shall add the name of any person or group upon request to a mailing list to receive copies of notices for all applications within the State or within a certain geographical area.

(4) Regional Administrators shall notify Federal and State fish, shellfish, and wildlife resource agencies and other appropriate government agencies of each complete application for a permit and of hearings and shall provide such agencies an opportunity to submit their written views and recommendations on each complete application.

(b)(1) Where notice is being given of an application for a permit, the Regional Administrator shall provide a period of not less than 30 days following the date of the public notice during which time interested persons may submit their written views concerning the tentative determinations or request that a hearing be held. All written comments submitted during the 30-day comment period shall be retained by the Regional Administrator and considered in the formulation of his final determinations with respect to the application. Extensions of time for the receipt of comments following the end of the comment period may be granted by the Regional Administrator when the public interest warrants.

(2) Where notice is being given of a hearing, the Regional Administrator shall provide a period of not less than 30 days following the date of the public notice during which time interested persons may prepare themselves for the hearing.

(c) The contents of public notice of an application shall include at least the following:

(1) Name, address, phone number of regional office issuing the public notice;

(2) Name and address of each applicant;

(3) Brief description of each applicant's activities or operations which result in the discharge described in the application including a statement of whether the application pertains to new or existing discharges (e.g., new municipal waste treatment plant, existing steel manufacturing, drainage from existing mining activities);

(4) Name of waterway to which each discharge is made and a short description of the location of each discharge on the waterway;

(5) A statement of the regional staff's tentative determination to issue or deny a permit for the discharge described in the application.

(6) A brief description of the procedures for the formulation of final determinations, including the 30-day comment period required by paragraph (b) of this section and any other means by which interested persons may influence or comment upon those determinations;

(7) Address and phone number of premises at which interested persons may obtain further information, request a copy of the fact sheet prepared pursuant to § 125.33, request a copy of the draft permit prepared pursuant to § 125.31, and inspect and copy forms and related documents; and

(8) Where applicable, a statement that confidential information has been received that may be used to determine some of the conditions for the permit.

(d) The contents of public notice of any hearing shall include at least the following:

(1) Name, address, and phone number of regional office holding the hearing;

(2) Name and address of each applicant whose application will be considered at the hearing;

(3) Name of waterway to which each discharge is made and a short description of the location of each discharge on the waterway;

(4) A brief reference to the public notice issued for each application, including identification number and date of issuance;

(5) Information regarding the time and location for the hearing;

(6) The purpose of the hearing;

(7) A concise statement of the issues raised by the persons requesting the hearing;

(8) Address and phone number of premises at which interested persons may obtain further information, request a copy of each draft permit prepared pursuant to § 125.31, request a copy of each fact sheet prepared pursuant to § 125.33, and inspect and copy forms and related documents;

(9) A brief description of the nature of the hearing, including the rules and procedures to be followed; and

(10) Where applicable, a statement that confidential information has been received that may be used to determine some of the conditions for the permit.

(e) The Regional Administrator, in his discretion, may include in any notice of application for a permit under paragraph (c) of this section a notice of hearing in accordance with paragraph (d) of this section, whether or not any request for such hearing shall have been submitted to him.

(f) Any public notice issued under this section may describe more than one discharge except that each discharge will be described separately.

(g) If individual States, in connection with applications for certification required by section 401 of the Act, wish to enter into agreements for joint Federal-State public notice concerning permits, the Regional Administrator may, after consulting with headquarters, approve mutually satisfactory agreements consistent with this section.

§ 125.33 Fact sheets.

(a) For every discharge which has a total volume of more than 500,000 gal on any day of the year the Regional Administrator shall prepare and, following public notice, shall send to the applicant, and upon request to any other person, a fact sheet with respect to the application described in the public notice. The contents of fact sheets shall include at least the following information:

(1) A sketch or detailed description of the location of the discharge described in the application;

(2) A quantitative description of the discharge described in the application which includes at least the following:

(i) The rate of frequency of the proposed discharge; if the discharge is continuous, the average daily flow in gallons per day or million gallons per day, and where appropriate the maximum and minimum flow in gallons per day or million gallons per day;

(ii) The average summer and winter temperatures of the discharge in degrees Fahrenheit and where appropriate the maximum and minimum temperature in degrees Fahrenheit; and

(iii) The average daily discharge in pounds per day, and milligrams per liter where appropriate, of any pollutants which are present in significant quantities or which are subject to limitations or prohibition under section 301, 302, 306, or 307 of the Act and regulations published thereunder;

(3) The tentative determinations required under § 125.31 of the regulations in this part.

(4) A brief citation, including a brief identification of the uses for which the receiving waters have been classified, of the water quality standards and effluent standards and limitations applied to the proposed discharge; and,

(5) A more detailed description of the procedures for the formulation of final determinations than that given in the public notice including:

(i) The term of the 30-day comment period required by § 125.32 of these regulations and the address where comments will be received;

(ii) Procedures for requesting a hearing and the nature thereof; and,

(iii) Any other procedures by which the public may participate in the formulation of the final determinations.

(b) The Regional Administrator shall add the name of any person or group upon request to a mailing list to receive copies of fact sheets.

(c) The Regional Administrator shall transmit one copy of each fact sheet to appropriate officials of Federal and State fish, shellfish, and wildlife resource agencies.

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§ 125.34 Hearings and appeals.

(a) *Definitions.*—(1) "Party" shall mean the officials designated by the Administrator or the Regional Administrator to prepare permits for issuance, the applicant for a permit, and any person who files a request for hearing or a request to be a party pursuant to paragraph (c) of this section.

(2) "Person" shall mean the State water pollution control agency of any State or States in which the discharge or proposed discharge shall originate or which may be affected by such discharge, the applicant for a permit, and any foreign country, Federal agency, or other person or persons having an interest which may be affected.

(3) The term "Administrator" means the Administrator, Environmental Protection Agency, or any officer or employee of the Agency to whom authority may be delegated to act in his stead, including, where appropriate, a judicial officer.

(4) The term "judical officer" means an officer or employee of the Environmental Protection Agency appointed as a judicial officer, pursuant to these rules who shall meet the qualifications and perform functions as herein provided.

(i) *Office.*—There may be designated for the purposes of these regulations one or more judicial officers. As work requires, there may be a judicial officer designated to act for the purposes of a particular case.

(ii) *Qualifications.*—A judicial officer may be a permanent or temporary employee of the Agency who performs other duties for the Agency. Such judicial officer shall not be employed by the office of enforcement and general counsel or the office of air and water programs or have any connection with the preparation or presentation of evidence for a hearing.

(iii) *Functions.*—The Administrator may delegate any or part of his authority to act in a given case under this section to a judicial officer. The administrator may delegate his authority to make findings of fact and draw conclusions of law in a particular proceeding, provided that this delegation shall not preclude the judicial officer from referring any motion or case to the Administrator when the judicial officer determines such referral to be appropriate. The Administrator, in deciding a case himself, may consult with and assign the preliminary drafting of conclusions of law and findings of fact to any judicial officer.

(5) The term "regional hearing clerk" means an employee of the Environmental Protection Agency designated by the Regional Administrator to establish a repository for all documents relating to hearings under this section.

(b) *Public hearings.*—(1) Where the Regional Administrator finds a significant degree of public interest in a proposed permit or group of permits, he may hold a public hearing to consider such permit or permits. Public notice of such hearings shall be given in the manner specified in § 125.32.

(2) Hearings held pursuant to this paragraph shall be conducted by the Regional Administrator, or his designee, in an orderly and expeditious manner.

(3) Any person shall be permitted to submit oral or written statements and data concerning the proposed permit. The Regional Administrator, or his designee, shall have discretion to fix reasonable limits upon the time allowed for oral statements, and may require the submission of statements in writing.

(4) Following the public hearing, the Regional Administrator may make such modifications in the terms and conditions of proposed permits as may be appropriate and shall issue or deny the permit. The Regional Administrator shall provide a notice of such issuance or denial to any person who participated in the public hearing and to appropriate persons on the mailing list established under § 125.32(a)(3). Such notice shall briefly indicate any significant changes which have been made from terms and conditions set forth in the draft permit. Any permit issued following a public hearing shall become effective 30 days after the date it is issued by the Regional Administrator, unless the Regional Administrator grants a request for an adjudicatory hearing pursuant to paragraph (c) of this section.

(c) *Adjudicatory hearings.*—(1) Within 30 days following issuance of public notice of a permit application pursuant to § 125.32, or, if a public hearing is held pursuant to § 125.34(b), within 20 days following the issuance of the notice provided in § 125.34(b)(4), any person may submit to the Regional Administrator a request for an adjudicatory hearing to consider the proposed permit and its conditions. If the request for an adjudicatory hearing is granted in accordance with § 125.34(f), any person may submit a request to be a party within 30 days after the date of publication of public notice of an adjudicatory hearing in a newspaper of general circulation as required by § 125.32.

(2) Requests for and adjudicatory hearing and requests to be a party under this paragraph shall:

(i) State the name and address of the person making such request;

(ii) Identify the interest of the requester, and any person represented by issuance or nonissuance of the permit;

(iii) Identify any other persons whom the requester represents;

(iv) Include an agreement by the requester, and any person represented by the requester, to be subject to examination and cross-examination, and in the case of a corporation, to make any employee available for examination and cross-examination at his own expense, upon the request of the presiding officer, on his own motion or on the motion of any party.

(3) In addition to the information required under § 125.34(c)(2), any request for an adjudicatory hearing shall state with particularity the reasons for the request, and the issues proposed to be considered at the hearing.

(4) In addition to the information required under § 125.34(c)(2), any request to be a party shall state the position of the requestor on the issues to be considered at the hearing.

(d) *Filing and service.*—(1) All documents or papers required or authorized to be filed, shall be filed with the regional hearing clerk, except as otherwise herein provided. Except for requests for an adjudicatory hearing or request to be a party, at the same time that a party files documents or papers with the clerk, it shall serve upon all other parties copies thereof, with a certificate of service on each document or paper, including those filed with the regional hearing clerk. Filing shall be deemed timely if received by the regional hearing clerk within the time allowed by this section.

(2) In addition to copies served on all other parties, each party shall file with the regional hearing clerk an original and two copies of all papers filed in connection with an adjudicatory hearing.

(e) *Time.*—In computing any period of time prescribed or allowed by the regulations in this part, except as otherwise provided, the day of the act or event from which the designated period of time begins to run shall not be included. Saturdays, Sundays, and holidays, shall be included in computing the time allowed for the filing of any document or paper, except that when such time expires on a Saturday, Sunday, or legal holiday, such period shall be extended to include the next following business day.

(f) *Notice of hearing.*—Within 5 days following the expiration of the time allowed by § 125.34(c)(1) for submitting a request for an adjudicatory hearing the Regional Administrator shall determine whether such request meets the requirements of § 125.34(c). If any request meets such requirements and sets forth material issues relevant to the question whether a permit should be issued, and what conditions to such permit would be required to carry out the provisions of the Act, the matter shall be assigned promptly for hearing: *Provided,* That if the Regional Administrator holds a public hearing under § 125.34(b), no request for an adjudicatory hearing shall be timely until after the conclusion of such public hearing. The Regional Administrator shall treat all other requests for a hearing as requests to be a party, and shall grant any such request meeting the requirements of § 125.34 (c)(2) and (c)(4). The hearing shall be held in the State in which the discharge or proposed discharge shall occur, or at such other accessible location as is appropriate. The Regional Administrator shall issue public notice of such hearing in the manner specified in § 125.32. The hearing shall take place not less than 30 days after the issuance of public notice of such hearing.

(g) *Additional parties.*—The Regional Administrator shall review all requests to be a party submitted pursuant to § 125.34(c). He shall grant any request meeting the requirements of that section. Following the expiration of the time provided by § 125.34(c) for the submission of requests to be a party, any person may file a motion for leave to intervene in an adjudicatory hearing. A

motion must set forth the grounds for the proposed intervention and the position and interest of the movant in the proceeding. A motion for leave to intervene in a hearing must ordinarily be filed prior to the commencement of the first prehearing conference. Any motion filed after that time must contain, in addition to the information set forth in § 125.34 (c), a statement of good cause for the failure to file the motion prior to the commencement of the first prehearing conference and shall be granted only upon a finding (1) that extraordinary circumstances justify the granting of the motion, and (2) that the intervenor shall be bound by agreements, arrangements and other matters previously made in the proceeding.

(h) *Consolidation.*—The Regional Administrator, in his discretion, may consolidate two or more proceedings to be held under this section whenever it appears that this will expedite or simplify consideration of the issues. Consolidation shall not affect the right of any party to raise issues that could have been raised if consolidation had not occurred. At the conclusion of proceedings under this section, the Regional Administrator shall issue one decision.

(i) *Representation.*—Parties may be represented by counsel or other duly qualified representative.

(j) *Duties and authorities of presiding officer.*—Presiding officers at adjudicatory hearings shall have the duty to conduct fair and impartial hearings, to take all necessary action to avoid delay in the disposition of proceedings, and to maintain order. They shall have all powers necessary to that end, including the following:

(1) To administer oaths and affirmations;

(2) To rule upon offers of proof and receive relevant evidence;

(3) To regulate the course of the hearings and the conduct of the parties and their counsel therein;

(4) To hold prehearing conferences in accordance with § 125.34(k);

(5) To consider and rule upon all procedural and other motions appropriate in such proceedings;

(6) To take any action authorized by these regulations or in conformance with law.

(k) *Prehearing conference.*—(1) In the discretion of the presiding officer, a prehearing conference or conferences may be held prior to any adjudicatory hearing. All parties will be given reasonable notice of time and location of any such conference. In the discretion of the presiding officer, persons other than parties may attend. At the conference, the presiding officer may:

(i) Obtain stipulations and admissions, and identify disputed issues of fact and law;

(ii) Set a hearing schedule which includes definite or tentative times for as many of the following as are deemed necessary by the presiding officer:

(A) Oral and written statements;

(B) Submission of written direct testimony as required or authorized by the presiding officer;

(C) Oral direct and cross-examination where necessary;

(D) Oral argument, if appropriate.

(iii) Identify matters of which official notice may be taken;

(iv) Consider limitation of the number of expert and other witnesses;

(v) Consider the procedure to be followed at the hearing; and

(vi) Consider any other matter that may expedite the hearing or aid in the disposition of the matter.

(2) The results of any conference shall be summarized in writing by the presiding officer and made part of the record.

(l) *Exchange of witness lists and documents.*—At a prehearing conference or within some reasonable time set by the presiding officer at a prehearing conference, each party shall make available to the other parties the names of the expert and other witnesses he expects to call, together with a brief narrative summary of their expected testimony. Copies of all documents and exhibits which he expects to introduce into evidence shall be marked for identification as ordered by the presiding officer. Thereafter, witnesses, documents, or exhibits may be added and narrative summaries of expected testimony amended only upon motion by a party.

(m) *Evidence.*—(1) The presiding officer shall admit all relevant and material evidence, except evidence that is unduly repetitious. Relevant and material evidence may be received at any hearing even though inadmissible under the rules of evidence applicable to judicial proceedings. The weight to be given evidence shall be determined by its reliability and probative value. Parties shall have the right to cross-examine a witness who appears at an adjudicatory hearing to the extent that such cross-examination is necessary for a full and true disclosure of the facts. In multiparty proceedings the presiding officer may limit cross-examination to one party on each side if it appears that the cross-examination by one party will adequately protect parties similarly situated. Other parties may, however, engage in cross-examination upon alleging that their cross-examination will go into matters not already covered by previous cross-examination.

(2) When a party will not be prejudiced thereby, the presiding officer may order all or part of the evidence to be submitted in written form.

(3) Rulings of the presiding officer on the admissibility of evidence, the propriety of cross-examination, and other procedural matters, shall be final and shall appear in the record.

(4) Interlocutory appeals may not be taken.

(5) Parties shall be automatically presumed to have taken exception to an adverse ruling.

(n) *Record.*—Adjudicatory hearings shall be stenographically reported and transcribed, and the original transcript shall be a part of the record and the sole official transcript. Copies of the transcript shall be available from the Environmental Protection Agency. Any party may within 10 days following the completion of the hearing submit proposed findings and conclusions.

(o) *Decision.*—(1) Within 20 days after completion of an adjudicatory hearing, the presiding officer shall certify the record, together with any proposed findings and conclusions submitted by the parties, to the Regional Administrator for decision. Within 15 days following certification of the record, the Regional Administrator or a responsible employee designated by the Regional Administrator shall issue a tentative or recommended decision. Any party may, within 10 days following the issuance of the tentative or recommended decision, submit exceptions to that decision, including written evidence relating to any facts officially noticed by the Regional Administrator or the responsible employee in the tentative or recommended decision. Within 30 days following the issuance of the tentative or recommended decision, the Regional Administrator shall issue a decision, and promptly notify the parties and the Administrator thereof. Such decision shall become the final decision of the Agency unless within 30 days after its issuance any party shall have appealed the decision to the Administrator, or the Administrator, on his own motion, shall have stayed the effectiveness of the decision of the Regional Administrator pending review.

(2) The decision of the Regional Administrator shall include a statement of findings and conclusions, and a decision, including the reasons and basis therefore, on all issues of fact, law, or discretion presented by the proposed findings and conclusions of the parties.

(p) *Appeal or review of decision of Regional Administrator.*—(1) Any party shall have the right to appeal to the Administrator from a decision of the Regional Administrator following an adjudicatory hearing.

(2) Where the Administrator, on his own motion, reviews a decision of the Regional Administrator, he shall provide to all parties a written statement of those issues to be considered on review. Any party may file briefs and reply briefs in accordance with paragraph (p) (3) and (4) of this section, limited to those issues identified by the Administrator.

(3) The appeal shall be in the form of a brief, filed within 30 days after notice of the decision of the Regional Administrator or, where the Administrator reviews a decision of the Regional Administrator on his own motion, within 30 days after the Administrator forwards the statement of issues under paragraph (p) (2) of this section. The brief shall contain, in the order indicated, the following:

(i) A subject index of the matter in the brief, with page references, and a table of cases, textbooks, statutes, and other material cited, with page references thereto;

(ii) A concise statement of the case;

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(iii) A specification of the questions intended to be urged, including any objections to rulings of the presiding officer, to the validity of facts officially noticed, or to any matter in the decision of the Regional Administrator.

(iv) The argument presenting clearly the points of fact and law relied upon in support of the position taken on each question, with specific references to the record and to statutory or other material relied upon; and,

(v) A proposed decision for the Administrator's consideration in lieu of the decision of the Regional Administrator.

(4) Within 10 days after the expiration of time for filing briefs under paragraph (p)(3) of this section, any party may file a reply brief to any brief or briefs submitted by any other party. Such reply briefs shall follow the format prescribed in paragraph (p)(3) of this section, except that the proposed decision of the Administrator may be omitted.

(q) *Decision upon appeal.*—(1) Upon appeal from an initial decision, the Administrator shall consider such parts of the record as are cited or as may be necessary to resolve the issues presented and may, in his discretion, exercise any of the powers specified in § 125.34(j).

(2) In rendering his decision, the Administrator shall adopt, modify, or set aside the findings, conclusions, and decision contained in the decision of the Regional Administrator, and shall include in his decision a statement of the reasons or basis for his action.

(3) In those cases where the Administrator believes that he requires further information or additional views of the parties as to the form and content of the decision to be rendered, the Administrator, in his discretion, may withhold final action pending the receipt of such additional information or views. The Administrator may, in his discretion, allow oral argument on appeal or review of a decision of the Regional Administrator.

(4) The decision of the Administrator on appeal shall become effective as specified by him therein or 30 days after the date of the decision, whichever first occurs; however, the Administrator may in his discretion stay the operation of his decision pending judicial review. Notice of the Administrator's decision on appeal shall be given to all parties.

§ 125.35 Public access to information.

(a) Certifications issued pursuant to section 401 of the Act, the comments of all governmental agencies on a permit application, draft permits prepared pursuant to § 125.31, and all information and data provided by an applicant or a permittee identifying the nature and frequency of a discharge shall be available to the public without restriction. All other information (other than effluent data) which may be submitted by an applicant in connection with a permit application or which may be furnished by a permittee in connection with required periodic reports shall also be available to the public unless the applicant or permittee specifically identifies and is able to demonstrate to the satisfaction of the Regional Administrator or his authorized representative that the disclosure of such information or a particular part thereof to the general public would divulge methods or processes entitled to protection as trade secrets.

(b) Where the applicant or permittee is able to demonstrate to the satisfaction of the Regional Administrator or his authorized representative that the disclosure of the information or a particular part thereof (other than effluent data) would result in methods or processes entitled to protection as trade secrets being divulged, the Regional Administrator shall treat the information or the particular part (other than effluent data) as confidential in accordance with the purposes of section 1906 of title 18 of the United States Code and not release it to any unauthorized person: *Provided, however*, That if access to such information is subsequently requested by any person, the procedures specified in section 2 of title 40 of the Code of Federal Regulations will be complied with. Such information may be disclosed to other officers, employees, or authorized representatives of the United States concerned with carrying out the Act or when relevant in any proceeding under the Act.

(c) Where the applicant or permittee is unable to demonstrate to the satisfaction of the Regional Administrator or his authorized representative that the disclosure of the information or a particular part thereof (other than effluent data) would result in methods or processes entitled to protection as trade secrets being divulged, the Regional Administrator shall notify the applicant or permittee of his decision. He shall also notify the applicant or permittee that failure to request within 10 days a General Counsel's determination shall result in the information in question being released to the public. Where within the 10-day period the applicant or permittee requests a General Counsel's determination, the Regional Administrator shall request advice from the office of General Counsel stating the reasons that he believes that the information will not result in methods or processes entitled to protection as trade secrets being divulged. A copy of the Regional Administrator's request shall be transmitted simultaneously to the applicant or permittee. The General Counsel shall determine whether the information in question would if revealed divulge methods or processes entitled to protection as trade secrets. In making such determination, the General Counsel shall consider any additional information received by the Office of General Counsel within 30 days of receipt of the request from the Regional Administrator. If the General Counsel determines that the information being considered would not if revealed divulge methods or processes entitled to protection as trade secrets, he shall so advise the Regional Administrator and shall notify the permittee or applicant claiming trade secrecy of such determination by certified mail. No sooner than 30 days following the mailing of such notice, the Regional Administrator shall make available to the public upon request the information determined not to constitute methods or processes entitled to protection as trade secrets.

(d) Notwithstanding paragraphs (a) and (b) of this section, the Administrator may withhold any information from the public when the release of such information would violate statutes or Executive orders or regulations issued pursuant thereto, concerned with the national security.

Subpart E—Miscellaneous

§ 125.41 Objections to permit by another State.

(a) Whenever following receipt of the certification described in § 125.15 the Regional Administrator determines that a discharge may affect the quality of the waters of any State other than the State that made the certification, the Regional Administrator shall, within 30 days of such certification, notify such other State and the applicant of his determination and shall transmit to such other State a copy of the fact sheet described in § 125.33 and upon request, a copy of the application and a copy of the draft permit prepared pursuant to § 125.31. If such other State determines, within 60 days from the date notice was received from the Regional Administrator, that the discharge will affect the quality of its waters so as to violate any water quality requirement in such State, such other State shall within such 60-day period notify the Regional Administrator in writing of its objection to the issuance of a permit and request a public hearing on the objection. Upon receipt of such request, the Regional Administrator shall hold a hearing in conformity with § 125.34 herein. Based upon the record, a permit shall issue, provided that if the imposition of conditions can not assure compliance with the applicable water quality requirements of all of the affected States, the permit shall be denied.

(b) Each affected State shall be afforded an opportunity to submit written recommendations to the Regional Administrator which the Regional Administrator may incorporate into the permits if issued. Should the Regional Administrator fail to incorporate any written recommendations thus received, he shall provide to the affected State or States a written explanation of his reasons for failing to accept any of the written recommendations.

(c) Where an interstate agency has authority over waters that may be affected by the issuance of a permit, it shall be afforded the rights of a State pursuant to paragraphs (a) and (b) of this section.

§ 125.42 Other legal action.

(a) Section 402(a)(4) of the Act provides that "permits issued under this title shall [also] be deemed to be per-

mits issued under section 13 of the Act of March 3, 1899," (the Refuse Act.) Discharges without a permit or in violation of permit terms and conditions may result in the institution of proceedings under the Refuse Act.

(b) Except as provided in section 402(k) of the Act, the mere filing of an application for a permit to discharge into waters covered by the NPDES will not preclude legal action in appropriate cases for violation of the Act and section 13 of the Act of March 3, 1899 (the Refuse Act). The institution of either a civil or criminal action by the United States may not preclude the acceptance or continued processing of a permit application.

§ 125.43 Environmental impact statements.

Section 511(c)(1) of the Act provides that with the exception of permits for new sources as defined in section 306, no action of the Administrator taken pursuant to the Act (concerning permits) shall be deemed a major Federal action significantly affecting the quality of the human environment within the meaning of the National Environmental Policy Act of 1969.

§ 125.44 Final decision of the Regional Administrator.

(a) Where no request for a public hearing or an adjudicatory hearing has been granted, no less than 30 days after the date of public notice of a permit application required by § 125.33 the Regional Administrator shall, after consideration of (1) the tentative determinations and draft permit prepared pursuant to § 125.31; (2) any comments, objections, and recommendations received from the applicant, involved Federal, State, local and foreign government agencies, and the public; and (3) the requirements and policies expressed in the Act and these regulations; make determinations with respect to each permit.

(b) Where the determination of the Regional Administrator pursuant to paragraph (a) of this section with respect to any permit is substantially unchanged from the tentative determinations and draft permit prepared pursuant to § 125.31, the Regional Administrator shall issue or deny the permit as appropriate, and such action shall be the final action of the Environmental Protection Agency.

(c) Where the determinations of the Regional Administrator pursuant to paragraph (a) of this section with respect to any permit are substantially changed from the tentative determinations and draft permit prepared pursuant to § 125.31, the Regional Administrator shall forward his revised determinations to the applicant, and shall give public notice of such revised determinations in the manner specified in § 125.33. If within 30 days following the date of such notice, no request for an adjudicatory hearing meeting the requirements of § 125.34(c) and subsection (d) of this section has been received, the determinations of the Regional Administrator shall become final and he shall issue or deny the permit as appropriate and such action shall be the final action of the Environmental Protection Agency: *Provided*, The Regional Administrator may decide to hold a public hearing pursuant to § 125.34(b).

(d) A request for an adjudicatory hearing under this section will only be granted when such request meets all the requirements of § 125.34(c) and such request pertains to the substantial changes proposed with respect to such permit by the Regional Administrator.

(e) When a hearing in held pursuant to § 125.34, final actions of the Environmental Protection Agency will be made pursuant to that section.

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PART II

federal register

ENVIRONMENTAL PROTECTION AGENCY

■

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

Miscellaneous Amendments

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Title 40—Protection of the Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

[328-3]

PART 125—NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

Miscellaneous Amendments

On May 22, 1973, regulations were promulgated and published in the FEDERAL REGISTER (38 FR 12528) establishing procedures for issuance of National Pollutant Discharge Elimination System (NPDES) permits pursuant to section 402 of the Federal Water Pollution Control Act, as amended (the "Act"). The purpose of those regulations was explained in the preamble to the proposed regulations in the FEDERAL REGISTER for January 11, 1973 (38 FR 1362).

Experience with this part has indicated that certain changes are needed, particularly in §§ 125.32 and 125.34 to ensure the fair and orderly administrative process of the issuance of NPDES permits.

The changes in Part 125 effective today are intended to clarify and amend the Agency procedures relating to the issuance of NPDES permits and apply to all permit applications or requests for modification of permits now or in the future filed pursuant to the Act and to which this Part applies. The essential changes in the procedures are briefly described below.

(1) The requirement for public notice of each completed permit application has been changed to require public notice of the proposed issuance, denial or modification of a permit. Further, the notice has been expanded to require disclosure of any intent to issue a permit containing a variance from the general effluent limitations and a comparison of the discharge proposed to be permitted and the discharge permitted under such limitations.

(2) The discretion of the Regional Administrator to hold public hearings on proposed permits has been modified to require the holding of public hearings where there is significant public interest in the permit.

(3) The requirement for a party to request an adjudicatory hearing prior to the Regional Administrator's determination with regard to the issuance of a permit has been amended so that the proposed permit will have been received by the applicant, during the period of time in which an interested person may request such hearing.

(4) The regulations did not provide a means to stay the effectiveness of a permit pending the exhaustion of administrative remedies. The changes effective today provide that all contested provisions of a permit do not become effective pending the exhaustion of administrative remedies. All severable non-contested provisions of the permit will become effective during such proceedings.

(5) The requirement that all applicants for permits be parties to the adjudicatory hearing has been changed to place the applicant in the same position as other interested persons and if he becomes a party to the adjudicatory hearing, he must make his employees and consultants available for examination and cross-examination.

(6) The requirement that issues of law be presented to the Presiding Officer in connection with an adjudicatory hearing has been amended to require that issues of law be presented to the Assistant Administrator for Enforcement and General Counsel of the Environmental Protection Agency for a decision, which is furnished to the Regional Administrator and the parties.

(7) The availability of an appeal from the decision of the Regional Administrator has been expanded to permit an appeal of the initial decision of either the Regional Administrator or the decision of the Assistant Administrator for Enforcement and General Counsel relied upon for such initial decision. Further the regulations now make clear that in order to preserve administrative remedies, including an appeal to the Administrator, an interested person must join as a party to the adjudicatory hearing.

A general description of the procedures as they are now in effect is set forth below. For a complete analysis of the new procedures, reference should be made to the section in question.

Subpart A

The references to §§ 125.34 and 125.35 in § 125.33 of this subpart have been changed to reflect the renumbering and changes in subpart D.

Subpart D

The amended subpart D contains procedures which ensure public notice and participation in permit proceedings, the issuance and effectiveness of permits and the administrative remedies available to interested persons. The means whereby these objectives are met are:

(1) Public notice of a proposal to issue, deny or modify a permit. Section 125.32 requires public notice designed to inform interested and potentially interested persons of the discharge and of the proposed determination to issue, deny or modify a permit. This section specifies the information required to be contained in the notice and the manner in which it is to be circulated.

Where the notice is being given of a proposed issuance, denial or modification, such notice shall provide for a period of time not less than 30 days following the date of such notice during which time interested persons may submit written comments. All written comments will be retained by and be considered by the Regional Administrator in the formulation of his decision. Where the Regional Administrator determines to hold public hearings pursuant to § 125.34, public notice must be given at least 30 days prior to the holding of such hearing in order for interested persons to prepare for the hearing.

Where public notice of an adjudicatory hearing is given pursuant to § 125.34, the notice must contain, in addition to the information described above, a statement to the effect that all persons interested in preserving any means of action regarding the final decision of the Administrator must join as a party to the adjudicatory hearing.

(2) Public hearings. Section 125.34 requires that public hearings be held where a significant degree of public interest in a proposed permit has been shown or where the Regional Administrator determines that useful information will be obtained. The hearings are to be conducted by the Regional Administrator or his designee. Any interested person may submit oral or written statements and data concerning the permit to the Regional Administrator. All statements, comments and data shall be retained by the Regional Administrator and be considered by him in the formulation of his decision.

(3) Issuance and effective date of permit. Section 125.35 provides the mechanism whereby permits are issued, denied or modified. No less than 30 days after the date of the public notice required by § 125.32, the Regional Administrator shall, after consideration of the facts and the requirements of the policies expressed in the Act and this part, make a determination with respect to a permit. This determination with respect to a permit shall be the final action of the Agency unless, within 10 days, any interested person requests an adjudicatory hearing pursuant to § 125.35. If the request for an adjudicary hearing is granted by the Regional Administrator, the provisions in the proposed permit that are contested shall not be issued and shall not be the final decision of the Administrator for the purpose of judicial review until the final decision of the Administrator has been made. Uncontested provisions of the permit shall be considered issued and effective, and the permittee shall be subject to compliance with those provisions of the permit, unless they are inseverable from the contested provision.

(4) Adjudicatory Hearings. Section 125.36 provides the procedures for an appeal from the determination of the Regional Administrator by any interested person from the issuance, denial or modification of a permit. Within 10 days following the date of the determination of the Regional Administrator with respect to a permit pursuant to § 125.33, any person may submit a request to the Regional Administrator for an adjudicatory hearing to reconsider his determination. Section 125.36 sets forth the requirements for information to be included in such request and the basis upon which a request will be granted. Within 10 days following the expiration of the time for requiring and adjudicatory hearing, the Regional Administrator shall issue a public notice of adjudicatory hearing where he determines to

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grant the request. Within 20 days following the public notice of an adjudicatory hearing, any interested person may submit a request to be admitted as a party.

The adjudicatory hearing will be conducted by a Presiding Officer who may hold prehearing conferences with the parties prior to the adjudicatory hearing for the purposes of obtaining stipulations, admissions, and otherwise identifying matters not in issue, identifying those matters in dispute and setting time schedules for the parties with respect to the adjudicatory hearing.

The Presiding Officer will then hold a public adjudicatory hearing. Following such hearing he shall, after the parties have an opportunity for the submission of proposed findings and conclusions, certify the record together with proposed findings and conclusions, if any, submitted by the parties, to the Regional Administrator for an initial decision. Within 30 days following the certification of the record, the Regional Administrator shall issue an initial decision which will become the final decision of the Administrator unless, within 10 days after its issuance, any party shall have petitioned the Administrator for review of the initial decision or unless the Administrator, on his own motion, decides to review the initial decision.

All issues of fact will be the subject of the adjudicatory hearing while all issues of law will be referred by the Presiding Officer to the Assistant Administrator for Enforcement and General Counsel for an initial decision.

Any party may, within 10 days following its issuance, appeal to the Administrator the initial decision of either the Regional Administrator or the Assistant Administrator for Enforcement and General Counsel. Any person petitioning for review by the Administrator of an initial decision shall set forth in his petition specific reference to each portion of the initial decision for which appeal is sought together with a summary statement of supporting reasons. If the Administrator, in his discretion, determines to accept review of the initial decision, the parties will be given the opportunity to file briefs in support of their positions.

A petition for review by the Administrator of an initial decision is a prerequisite for judicial review of the final decision of the Administrator. On review, the Administrator may affirm, modify, set aside or remand for further proceedings, in whole or in part, the initial decision.

Subpart E

Section 125.44 is being rescinded today because the substance of that section is now contained in § 125.33.

A new § 125.44 is being adopted to set forth the manner of computing time periods specified in this part.

Accordingly, subparts A, D, and E of part 125 of Title 40, Code of Federal Regulations are amended as set forth below. These amendments are promulgated as final amendments to the regulations since they are matters relating to Agency procedures and the changes are needed to improve such procedures relating to the issuance of NPDES permits. Further, because of the large number of permit applications presently filed with this Agency and the desire to make these improved procedures available for those permits presently being processed, the Agency has determined that it is not necessary to provide notice of proposed rulemaking, opportunity for public participation or delay of effective date.

In accordance with the spirit of the public policy set forth in 5 U.S.C. 553, and section 101(e) of the Act, however, interested persons may submit on or before September 9, 1974 written comments, suggestions, data or arguments on these amendments or any other section of this part to the Office of Enforcement and General Counsel, Environmental Protection Agency, Washington, D.C. 20460, attention: Associate General Counsel—Water. Material thus submitted will be evaluated and considered with respect to the need for future amendment of this part.

These amendments are effective upon publication.

(Authority: Sections 402, 405 and 501 of the Federal Water Pollution Control Act, as amended (86 Stat. 816 et seq., Pub. L. 92-500; 33 U.S.C. § 1251 et seq.).

Dated: July 11, 1974.

JOHN QUARLES,
Acting Administrator.

Subpart A—General

§ 125.3 [Amended]

1. In § 125.3, paragraph (a) is amended by changing the citations "§ 125.34" and "§ 125.35(c)" to "§ 125.36" and "§ 125.37 (c)" respectively and paragraph (b) is amended by changing the citation "§ 125.35" to "§ 125.37."

Subpart B—Notice and Public Participation

2. Section 125.32 of this subpart is revised to read as follows:

§ 125.32 Public Notice.

(a) Public notice of the proposed issuance, denial or modification of every permit or denial shall be circulated in a manner designed to inform interested and potentially interested persons of the discharge and of the proposed determination to issue, deny, or modify a permit for the discharge. Public notice of hearings shall be circulated in a manner designed to inform interested and potentially interested persons of the discharge and of the intention to hold a hearing regarding the issuance of or denial of a permit for the discharge. Procedures for the circulation of public notice shall include at least the following:

(1) Notice shall be circulated within the geographical area of the proposed discharge; such circulation shall include any one of the following:

(i) Posting in the post office and public places of the municipality nearest the premises of the applicant in which the effluent source is located;

(ii) Posting near the entrance to the applicant's premises and in nearby places, or,

(iii) Publishing in local newspapers and periodicals or, if appropriate, in a daily newspaper of general circulation.

(2) Notice shall be mailed to the applicant, Federal and State fish, shellfish and wildlife resource agencies, and other appropriate government agencies, and to any person or group upon request and shall provide an opportunity to submit their written views and recommendations on each proposed issuance.

(3) The Regional Administrator shall add the name of any person or group upon request to mailing list to receive copies of notices within a State or within a certain geographical area.

(b) (1) Where notice is being given of the proposed issuance, denial or modification of a permit, the Regional Administrator shall provide a period of not less than thirty (30) days following the date of the public notice during which time interested persons may submit written views concerning the tentative determinations or may request that a hearing be held. All written comments submitted during the 30-day comment period shall be retained by the Regional Administrator and considered in the formulation of his final determinations with respect to the applicant. Extensions of time for the receipt of the comments following the end of the comment period may be granted by the Regional Administrator when the public interest warrants.

(2) Where notice is being given of a hearing, the Regional Administrator shall provide a period of not less than thirty (30) days following the date of the public notice during which time interested persons may prepare for the hearing.

(c) The contents of public notice of the proposed issuance, denial or modification of a permit shall include at least the following:

(1) Date of notice of the proposed issuance, denial or modification;

(2) Name, address, phone number of Regional Office issuing the public notice;

(3) Name and address of each applicant;

(4) Brief description of each applicant's activities or operations (including the appropriate standard industrial classification code) which result in the discharge described in the application, including a statement of whether the application pertains to new or existing discharges (e.g., new municipal waste treatment plant, existing steel manufacturing, drainage from existing mining activities, etc.);

(5) Name and classification of waterway to which each discharge is made and a concise description of the location of each discharge on the waterway;

(6) (i) A statement of the Regional staff's tentative determination to issue, deny, or modify a permit for the discharge described in the application;

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(6) A comparison of the discharge of pollutants proposed to be permitted and that permitted by the effluent limitations established for each category of point source where the tentative determination involves a proposed variance from such effluent limitations, as provided for in subchapter N of this Title.

(7) A brief description of the procedures for the formulation of final determinations, including the 30-day comment period required by paragraph (b) of this section, and any other means by which interested persons may comment upon those determinations;

(8) The address and phone number of premises at which interested persons may obtain further information, request a copy of the fact sheet prepared pursuant to § 125.33 of this subpart, request a copy of the draft permit prepared pursuant to § 125.31 of this subpart, and inspect and copy forms and related documents;

(9) Where applicable, a statement that confidential information has been received that may be used to determine some of the conditions for the permit; and

(10) A statement that a public hearing shall be held where the Regional Administrator finds a significant degree of public interest in the proposed issuance, modification or denial.

(d) The contents of public notice of a public hearing held pursuant to § 125.34 of this subpart shall include at least the following:

(1) Date of notice of public hearing;

(2) Name, address, and phone number of Regional Office holding the hearing;

(3) Name, standard industrial classification code and address of each applicant whose application will be considered at the hearing;

(4) Name and classification of the waterway to which each discharge is made and a concise description of the location of each discharge on the waterway;

(5) A reference to each public notice of the proposed issuance, denial or modification of a permit, including identification number and date of such notice;

(6) The time and location of the hearings;

(7) The purpose of the hearing;

(8) A concise statement of any issues raised by persons requesting the hearing, if appropriate;

(9) The address and phone number of premises at which interested persons may obtain further information, request a copy of each draft permit prepared pursuant to § 125.31 of this subpart, request a copy of each fact sheet prepared pursuant to § 125.33 of this subpart, and inspect and copy forms and related documents; and

(10) A brief description of the nature of the hearing, including the applicable rules and procedures.

(e) The contents of public notice of an adjudicatory hearing held pursuant to § 125.37 of this subpart shall include at least the following:

(1) Date of notice of adjudicatory hearing;

(2) Name, address, and phone number of Regional Office holding the hearing;

(3) Name and address of the person(s) whose proposed permit(s) will be considered at the adjudicatory hearing;

(4) Name of waterway to which each discharge is made and a concise description of the location of each discharge on the waterway;

(5) A reference to the public notice and proposed permit, including identification number and the date of issuance of each;

(6) Name and address of person requesting the hearing and the name and address of each known party to the hearing;

(7) A statement of the issues raised by the original requester;

(8) A concise description of the nature of the hearing, including applicable rules and procedures, and the following statements:

(i) Any interested person may file a request to be admitted as a party to the hearing within 30 days of the date of issuance of the notice;

(ii) Any person admitted as a party may submit additional material issues for consideration at the adjudicatory hearing within 30 days of the date of issuance of the notice;

(iii) Any party may at any time prior to the hearing submit any documents or written evidence or testimony which he intends to introduce at the hearing;

(iv) After 30 days have elapsed following the date of the notice, the Presiding Officer may set a time and location of a prehearing conference and will so notify all parties.

(v) The proposed permit may be amended by the Regional Administrator prior to or after the adjudicatory hearing and any person interested in the particular proposed permit must request to be a party in order to preserve any right to appeal the final administrative determination;

(vi) Any State with certification rights under section 401 of the Act must certify or deny certification within thirty (30) days after it is notified that a proposed permit has been amended after a request for an adjudicatory hearing has been granted. Failure to certify or deny certification shall be deemed a waiver of such certification rights;

(9) The address and phone number of the premises at which an interested person may obtain further information, request a copy of the proposed permit, request a copy of the fact sheet if appropriate, inspect and copy documents comprising the record prepared pursuant to § 125.34, and submit a request to be admitted as a party and request any additional issues to be considered at the adjudicatory hearing; and

(10) Where applicable, a statement that confidential information has been received that may be used to determine some of the conditions for the permit.

(f) The Regional Administrator, in his discretion, may issue, prior to or as part of any notice of the proposed issuance, denial or modification of a permit, a notice of public hearing in accordance with paragraph (d) of this section, whether or not any request for such public hearing has been submitted to him.

(g) Public notice issued under this section may describe more than one permit and more than one discharge, provided that each discharge shall be described separately.

(h) The Regional Administrator may enter into agreements with States for joint Federal-State public notices and joint public hearings regarding applications for permits and applications for certification required by section 401 of the Act.

3. Section 125.34 of this subpart is revised to read as follows:

§ 125.34 Public Hearings.

(a) Except as provided in paragraph (d) of this section, where the Regional Administrator finds a significant degree of public interest in a proposed permit or group of permits, he shall hold a public hearing to consider such permit or permits. Public notice of such hearings shall be given in the manner specified in § 125.32 of this subpart.

(b) Hearings held pursuant to this section shall be conducted by the Regional Administrator, or his designee, in an orderly and expeditious manner.

(c) Any person shall be permitted to submit oral or written statements and data concerning the proposed permit. The Regional Administrator, or his designee, shall have discretion to fix reasonable limits upon the time allowed for oral statements, and may require the submission of statements in writing.

(d) If he determines that useful information and data may be obtained thereby, the Regional Administrator may hold a public hearing at any time prior to the issuance of a permit. Notice of a public hearing pursuant to this section shall be circulated as provided in § 125.32 (a) of this subpart at least thirty (30) days prior to the hearing. The hearing shall be conducted in the manner set forth in paragraphs (b) and (c) of this section. All statements, comments and data presented at the hearing shall be retained by the Regional Administrator and considered in the formulation of his determination. Where a public hearing is held pursuant to this paragraph, no public hearing is required pursuant to paragraph (a) above.

4. Subpart D is amended by redesignating § 125.35 to § 125.37 and by adding new §§ 125.35 and 125.36, reading as follows:

§ 125.35 Issuance and Effective Date of Permit.

(a) No less than thirty (30) days after the date of public notice of the proposed issuance, denial or modification of a permit required by § 125.32 of this subpart, the Regional Administrator shall, after consideration of the facts and the requirements and policies expressed in

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the Act and these Regulations, make determinations with respect to such permit. Such determinations shall include a proposed permit modification or denial.

(b)(1) Where the determinations of the Regional Administrator pursuant to paragraph (a) of this section with respect to any permit are substantially unchanged from the tentative determinations and draft permit prepared pursuant to § 125.31 of this subpart, the Regional Administrator shall forward a copy of the determinations to any person who has submitted written comments regarding the permit.

(2) Where the determinations of the Regional Administrator pursuant to paragraph (a) of this section with respect to any permit are substantially changed from the tentative determinations and draft permit prepared pursuant to § 125.31 of this subpart, the Regional Administrator shall give public notice of such determinations.

(c) The proposed permit, modification or denial contained in the determination of the Regional Administrator prepared pursuant to paragraph (b) above shall become issued and the final action of the Environmental Protection Agency, unless a request for an adjudicatory hearing is granted pursuant to § 125.37(b) of this subpart, in which case the final action of the Environmental Protection Agency will be made pursuant to § 125.37 of this subpart.

(d)(1) Except as provided in subparagraph (2) of this paragraph, the date of issuance of a permit shall be the date all provisions of a permit become effective. The period within which a person may request an adjudicatory hearing pursuant to § 125.36(b)(1) of this subpart shall commence on the date of receipt of the determination of the Regional Administrator. The permit shall take effect thirty (30) days after the date of the determination unless a later effective date is specified in the determination.

(2) If a request for an adjudicatory hearing is granted pursuant to § 125.36 (b) of this subpart, the effect of the contested provision(s) of the proposed permit, as determined by the Regional Administrator, shall be stayed and shall not be considered the final action of the Administrator for the purposes of judicial review pursuant to § 509(b) of the Act, pending final agency action pursuant to § 125.36 of this subpart. Contested provisions of a proposed permit shall include uncontested provisions which are inseverable from those provisions contested. Uncontested provisions of the proposed permit contained in the determination shall be considered issued and effective, and the permittee shall be subject to all such provisions.

§ 125.36 Adjudicatory Hearings.

(a) Definitions.

(1) "Party" shall mean officers or employees of the Environmental Protection Agency designated by the Administrator or the Regional Administrator to prepare permits for issuance, and any person whose request for a hearing or request to be a party pursuant to this section has been granted.

(2) "Person" shall mean the State water pollution control agency of any State or States in which the discharge or proposed discharge shall originate or which may be affected by such discharge. The applicant for a permit, and any foreign country, Federal agency, or other person or persons having an interest which may be affected.

(3) The term "Administrator" means the Administrator of the Environmental Protection Agency, or any officer or employee of the Agency to whom authority is delegated to act in his stead, including, where appropriate, a presiding officer.

(4) The term "Judicial Officer" means an officer or employee of the Environmental Protection Agency appointed as a judicial officer by the Administrator pursuant to this section who shall meet the qualifications and perform functions as follows:

(i) Officer—there may be designated for the purposes of this section one or more judicial officers. As work requires, there may be a judicial officer designated to act for the purposes of a particular case.

(ii) Qualifications—a Judicial Officer may be a permanent or temporary employee of the Environmental Protection Agency who performs other duties for the Agency. Such Judicial Officer shall not be employed by the Office of Enforcement and General Counsel or the Office of Air and Water Programs or have any connection with the preparation or presentation of evidence for a hearing held pursuant to this part.

(iii) Functions — the Administrator may delegate any of his authority to act in a given case under this section to a Judicial Officer. The Administrator may delegate his authority to make findings of fact in a particular proceeding, provided that this delegation shall not preclude the Judicial Officer from referring any motion or case to the Administrator when the Judicial Officer determines such referral to be appropriate. The Administrator, in deciding a case himself, may consult with and assign the preliminary drafting of findings of fact to any Judicial Officer.

(5) The term "Regional Hearing Clerk" means an employee of the Environmental Protection Agency designated by the Regional Administrator to establish a repository for all documents relating to hearings under this section.

(6) The term "Presiding Officer" means a person appointed by the Regional Administrator or the Administrator for the purpose of presiding at the adjudicatory hearing.

(b) Requests for Adjudicatory Hearings and Legal Decisions.

(1) Within 30 days following the date of determination with regard to a permit pursuant to § 125.35(a) of this subpart or any modification thereto, any interested person may submit to the Regional Administrator a request for an adjudicatory hearing pursuant to paragraph (b)(2) of this section or a legal decision pursuant to paragraph (m) of this section, to reconsider the determination with regard to a permit and the conditions contained therein.

(2) Requests for an adjudicatory hearing shall:

(i) State the name and address of the person making such request;

(ii) Identify the interest of the requestor which is affected by the proposed issuance, denial or modification of the permit, contained in the determination of the Regional Administrator pursuant to § 125.35(a);

(iii) Identify any persons whom the request represents;

(iv) Include an agreement by the requestor to be subject to examination and cross-examination and to make any employee or consultant of such requestor or other person represented by the requestor available for examination and cross-examination at the expense of such requestor or such other person upon the request of the Presiding Officer, on his own motion, or on the motion of any party.

(v) State with particularity the reasons for the request;

(vi) State with particularity the issues proposed to be considered at the hearing; and

(vii) Include proposed terms and conditions which, in the judgment of the requestor, would be required to carry out the intendment of the Act.

(c) Decision on a Request for a Hearing.

(1) Within ten (10) days following the expiration of the time allowed by paragraph (b) of this section for submitting a request for an adjudicatory hearing, the Regional Administrator shall grant the request and shall promptly assign the matter for hearing if he determines that a submitted request:

(i) meets the requirements of paragraph (b) of this section and,

(ii) sets forth material issues of fact relevant to the questions of whether a permit should be issued, denied or modified.

(2) If the Regional Administrator determines that the request fails to meet the requirements of paragraph (c)(1) of this section, he shall deny the request.

(3) If the Regional Administrator grants a request for an adjudicatory hearing in regard to a particular proposed permit, he shall treat each other request for an adjudicatory hearing in regard to that proposed permit as a request to be a party and shall grant any such request which meets the requirements of paragraph (b) of this section.

(4) The Regional Administrator shall issue public notice of such hearing in the manner specified in § 125.32(c) of this subpart.

(d) Additional Parties and Issues.

(1) Any person may submit a request to be admitted as a party within thirty (30) days after the date of publication of public notice of an adjudicatory hearing specified in § 125.32 of this subpart. The Regional Administrator shall grant

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any request which meets the requirements of paragraph (b)(2) of this section. The request must set forth all material issues of fact the requester seeks to be considered at the adjudicatory hearing.

(2) Following the expiration of the time provided in subparagraph (1) of this paragraph for the submission of requests to be admitted as a party, any person may file a motion for leave to intervene as a party in an adjudicatory hearing. Such motion must set forth the information required by paragraph (b)(2) of this section, the grounds for the proposed intervention, and the interest and position of the moving party in the proceeding. A motion for leave to intervene in a hearing must ordinarily be filed prior to the commencement of the first prehearing conference. Any motion filed after that time must contain, in addition to the information required above, a statement of good cause for the failure to file the motion prior to the commencement of the first prehearing conference and shall be granted only upon a finding (i) that extraordinary circumstances justify the granting of the motion, and (ii) that the intervenor shall be bound by agreements, arrangements and other matters previously made in the proceeding.

(e) Filing and Service.

(1) An original and two (2) copies of all documents or papers required or authorized to be filed pursuant to this section shall be filed with the Regional Hearing Clerk. Filing shall be deemed timely if mailed to the Regional Office within the time allowed by this section.

(2) Any party may at any time reduce to writing and file within the Regional Hearing Clerk any testimony which said party intends to introduce into evidence at the hearing.

(3) Except for requests for an adjudicatory hearing or requests to be a party, at the same time that a party files with the Regional Hearing Clerk any additional issues for consideration at the hearing or any written testimony, documents, papers, exhibits, or materials proposed to be introduced into evidence, it shall serve upon all other parties copies thereof. A certification of service shall be provided on or accompany each document or paper filed with the Regional Hearing Clerk.

(f) Representation.

Parties may be represented by counsel or other duly authorized representatives.

(g) Consolidation.

The Administrator or Regional Administrator(s), in his or their discretion, may consolidate two or more proceedings to be held under this section whenever it appears that this will expedite or simplify consideration of the issues. Consolidation shall not affect the rights of any party to raise issues that could have been raised if consolidation had not occurred. At the conclusion of the adjudicatory hearing, the Administrator or Regional Administrator shall render a separate decision for each proceeding.

(h) Prehearing Conference.

(1) The Presiding Officer may hold one or more prehearing conferences prior to any adjudicatory hearing. The conference shall be within a reasonable period of time following the date of issuance of public notice of the adjudicatory hearing but not less than thirty (30) days after such notice. The Presiding Officer shall set the time and location of the conference and give reasonable notice thereof to all parties. If the Presiding Officer so directs, the notice shall also:

(i) Specify that parties are required to produce witness lists or any other materials prior to or at the prehearing conference; and

(ii) Indicate that the Presiding Officer intends to hold the adjudicatory hearing immediately upon completion of the conference.

(2) In the discretion of the Presiding Officer, persons other than parties may attend prehearing conferences.

(3) At a prehearing conference or within some reasonable time set by the Presiding Officer, each party shall make available to the other parties the names of the expert and other witnesses the party expects to call, together with a brief narrative summary of their anticipated testimony. Copies of any written testimony, documents, papers, exhibits, or materials which a party expects to introduce into evidence shall be marked for identification as ordered by the Presiding Officer. Witnesses and proposed written evidence may be added and narrative summaries of expected testimony amended only upon a finding of the Presiding Officer that good cause existed for failure to introduce the additional or amended material within the time specified by the Presiding Officer.

(4) At any prehearing conference, or at any other time by agreement of the parties, the Presiding Officer may:

(i) Obtain stipulations and admissions, and otherwise identify matters on which there is agreement;

(ii) Identify disputed issues of a purely legal nature which shall be decided pursuant to the procedure specified in paragraph (m) of this section;

(iii) Identify disputed issues for consideration at the hearing;

(iv) Consider and rule upon objections to the introduction into evidence at the hearing of any written testimony documents, papers, exhibits, or materials proposed by a party pursuant to paragraph (d)(3) or (h)(3) of this section;

(v) Identify matters of which Official Notice may be taken;

(vi) Set a hearing schedule which includes definite or tentative times for as many of the following as are deemed necessary by the Presiding Officer:

(A) Oral and written statements;

(B) Submission of written direct testimony required by or authorized by the Presiding Officer;

(C) Oral direct and cross-examination where necessary;

(D) Oral argument, if appropriate.

(vii) Strike issues not material or not relevant to the question of whether a permit should be issued and what conditions to such permit would be required to carry out the intendment of the Act;

(ix) Set a time and location for the next prehearing conference, or, if no further conferences are needed, the adjudicatory hearing; and

(x) Consider any other matter that may expedite the hearing or aid in the disposition of the matter.

(5) The results of any conference shall be summarized in writing by the Presiding Officer and made part of the record.

(i) Adjudicatory Hearing Procedure.

(1) The burden of proof and of going forward with the evidence shall be upon the requester.

(2) The Presiding Officer shall have the duty to conduct a fair and impartial hearing, to take action to avoid unnecessary delay in the disposition of proceedings, and to maintain order. He shall have all powers necessary to that end, including but not limited to the following:

(i) To administer oaths and affirmations;

(ii) To rule upon offers of proof and receive relevant evidence;

(iii) To regulate the course of the hearing and the conduct of the parties and their counsel therein;

(iv) To consider and rule upon all procedural and other motions appropriate to the proceedings; and

(v) To take any other action authorized by law and this Part.

(3) The Presiding Officer shall admit all relevant and material evidence except that which is unduly repetitious.

(4) Parties shall have the right to cross-examine a witness who appears at an adjudicatory hearing to the extent that such cross-examination is necessary for a full and true disclosure of the facts.

In multi-party proceedings the Presiding Officer may limit cross-examination to one party on each side if he is satisfied that the cross-examination by one party will adequately protect the other parties. Other parties may, however, engage in cross-examination relevant to matters not adequately covered by previous cross-examination.

(5) Except where a party will be unfairly prejudiced thereby, testimony shall be written and submitted to all parties and the Presiding Officer at a time prior to the adjudicatory hearing specified by the Presiding Officer.

(6) Rulings of the Presiding Officer on the admissibility of evidence, the propriety of cross-examination, and other procedural matters shall be final and shall appear in the record.

(7) Parties shall be presumed to have taken exception to an adverse ruling.

(j) Record of Hearings.

Adjudicatory hearings shall be stenographically reported and transcribed, and the original transcript shall be a part of the record and the sole official transcript.

(k) Proposed Findings and Conclusions.

Any party may, within 10 days following the completion of testimony and the cross-examination of witnesses (or later if the parties agree), submit proposed findings and conclusions.

(j) Initial Decision by Regional Administrator.

(1) Within 15 days after completion of testimony and cross-examination of witnesses or within 5 days from the receipt of proposed findings and conclusions, whichever is later (or later if the parties agree), the Presiding Officer shall certify the record, together with any proposed findings and conclusions submitted by the parties, to the Regional Administrator for an initial decision. Within twenty (20) days following certification of the record the Regional Administrator or his designee shall issue an initial decision and promptly notify the parties and the Administrator thereof.

(2) The initial decision of the Regional Administrator shall include a statement of findings and conclusions including the reasons and the basis therefore. All issues of fact or discretion submitted by the parties in proposed findings and conclusions pursuant to this section shall be addressed in the initial decision of the Regional Administrator.

(3) Where a legal decision has been requested and no adjudicatory hearing has been granted, the Regional Administrator shall render an initial decision within 20 days after receiving the decision of the Assistant Administrator for Enforcement and General Counsel.

(4) The initial decision of the Regional Administrator shall become the final decision of the Agency unless within ten (10) days after its issuance any party shall have appealed the initial decision to the Administrator pursuant to paragraph (n)(1) of this section, or unless the Administrator on his own motion pursuant to paragraph (n)(2) of this section shall have stayed the effectiveness of the decision of the Regional Administrator pending review.

(m) Decision of the Assistant Administrator for Enforcement and General Counsel on questions of law.

(1) Issues of law, including questions relating to the interpretation of provisions of the Act, and the legality and interpretation of regulations promulgated pursuant to the Act, shall be decided in accordance with this subsection and shall not be considered at the adjudicatory hearing.

(2) The Presiding Officer shall determine which issues, if any, submitted by the parties fall into the category specified in subparagraph (1) of this paragraph, and shall refer such issues to the Assistant Administrator for Enforcement and General Counsel for resolution. Such referral may be accompanied by briefs, filed with the Assistant Administrator for Enforcement and General Counsel within twenty (20) days of the removal of the referred issues from the adjudicatory hearing by the Presiding Officer pursuant to subparagraph (2) of this paragraph. The brief shall contain, in the order indicated, the following:

(i) A subject index of the issues presented in the brief, with page references, and a table of citations, cases, textbooks, and other material cited, with page references thereto;

(ii) A concise statement of each referred issue;

(iii) A discussion of each issue, including arguments in favor of the referring party's position and citations to cases, statutes, legislative history, etc., tending to support such positions; and

(iv) A recommended decision for each referred issue.

(3) Where no adjudicatory hearing has been granted, issues of law may be referred by the Regional Administrator to the Assistant Administrator for Enforcement and General Counsel for a decision in the manner specified in paragraph (m)(2) of this section.

(4) The Assistant Administrator for Enforcement and General Counsel shall provide the Regional Administrator, the Presiding Officer, where appropriate, and each party with a written decision with respect to each referred issue of law. A written opinion setting forth the reasons and basis for the decision shall also be provided. The decision of the Assistant Administrator for Enforcement and General Counsel shall be final with respect to each referred issue of law as it relates to the particular permit in question and shall be relied upon by the Regional Administrator in rendering the initial decision.

(n) Appeal of initial decision of the Regional Administrator.

(1) Any party may file a petition for the Administrator's review of the initial decision of the Regional Administrator or the decision of the Assistant Administrator for Enforcement and General Counsel relied upon by the Regional Administrator in rendering the initial decision.

(2) The Administrator may, on his own initiative, review the initial decision of the Regional Administrator. Notice of such decision shall be mailed to all parties, by certified mail, within two days after the Administrator has determined, pursuant to this subparagraph, to review the initial decision of the Regional Administrator.

(3) Any person seeking review of the initial decision of the Regional Administrator by the Administrator shall, within ten (10) days of the initial decision of the Regional Administrator file with the Administrator and mail, by certified mail, to all parties a petition for the Administrator's review. Such petition shall indicate specifically those portions of the initial decision to which exceptions are taken together with a summary statement of the supporting reasons for such exceptions, including, where appropriate, a showing that the initial decision of the Regional Administrator contained a finding of fact or a conclusion of law which is clearly erroneous or an exercise of decision or policy which is important and which the Administrator should, in his discretion, review.

(4) The Administrator shall promptly determine whether the petition for review is accepted or denied. The Administrator, in his discretion, may decline to review the initial decision of the Regional Administrator in which case the initial decision becomes the final decision of the Administrator. If the Administrator accepts the petition for review, he shall notify the parties of the matters to be considered on review and set forth the time in which briefs may be filed.

(5) After accepting review, the Administrator may nevertheless summarily affirm the decision of the Regional Administrator.

(6) A petition to the Administrator for review of any initial decision of the Regional Administrator pursuant to subparagraph (1) of this paragraph is, pursuant to 5 U.S.C. § 704, a prerequisite to the seeking of judicial review of the final decision of the Administrator.

(7) Unless a party timely files a petition for review, or unless the Administrator on his own initiative orders review, the initial decision of the Regional Administrator shall become the final decision of the Administrator. If a petition for review is filed timely by a party pursuant to paragraph (n)(1) of this section, or action to review is taken by the Administrator on his own initiative pursuant to paragraph (n)(2) of this section, the initial decision of the Regional Administrator shall not become the final action of the Administrator.

(8)(i) Any party may serve and file briefs in support of the petition within thirty (30) days after the Administrator has ordered review pursuant to a petition for review. Any other parties may serve and file reply briefs within thirty (30) days of service of a brief in support of the petition.

(ii) When the Administrator determines to review on his own initiative, any party may serve and file briefs in support of their positions within thirty (30) days of his determination and reply briefs within thirty (30) days of service of the original briefs.

(iii) The Administrator may specify other time periods for service of briefs.

(9)(i) Review by the Administrator of an initial decision by the Regional Administrator shall be limited to matters specified, except that on notice to all parties, the Administrator, in his discretion, may raise and decide other matters which he deems material.

(ii) Upon review, the Administrator may affirm, modify, set aside or remand for further proceedings, in whole or in part, the initial decision of the Regional Administrator and make any findings or conclusions which in his judgment are proper. Any affirmations of the initial decision of Regional Administrator by the Administrator, for whatever reason, shall be deemed to be affirmed for the reasons indicated by the Regional Administrator unless other reasons are stated by the Administrator.

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(10) (i) Briefs shall be confined to the particular matters remaining at issue. Briefs not filed at or before the time provided will not be received except upon special permission of the Administrator. Each exception which is briefed shall be supported by citation of such statutes, rules, decision and other authorities and by page reference to such portions of the record as may be relevant. Reply briefs shall be confined to matters in original briefs of other parties.

(ii) All briefs filed with the Administrator shall include an index and table of authorities. Each brief shall be dated, and no brief shall be longer than sixty (60) pages except with the permission of the Administrator.

(iii) All briefs must be signed by the party filing same or his authorized agent or attorney and show the address of the signer.

(12) The Administrator shall decide the matters under review on the basis of the record presented and any other consideration he deems relevant. Oral argument before the Administrator will be available only where the Administrator, in his discretion, requests such argument.

(13) All papers required to be filed with the Administrator shall be mailed to the Administrator, certified mail, and be received by the Administrator within the time limit for such filing. All papers required to be served on any party shall be mailed to such party, certified mail, at the address for such party as it appears on the record, within the time limit for such service.

(c) Delegation of Authority

The Administrator may, pursuant to paragraph (a)(4) of this section, delegate to a Judicial Officer any or part of his authority to act pursuant to this section.

Subpart E—Miscellaneous

8. Subpart E is amended by revoking § 125.44 and adding a new § 125.44.

§ 125.44 Computation of Time.

In computing any period of time prescribed or allowed in this Part, except unless otherwise provided, the day on which the designated period of time begins to run shall not be included. The last day of the period so computed is to be included unless it is a Saturday, a Sunday or a legal holiday on which the Environmental Protection Agency is not open for business, in which event the period runs until the end of the next day which is not a Saturday, Sunday or legal holiday. Intermediate Saturdays, Sundays and legal holidays shall be excluded from the computation when the period of time prescribed or allowed is 7 days or less.

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PART II

ENVIRONMENTAL PROTECTION AGENCY

■

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

Guidelines for Acquisition of Information From Owners of Point Sources

2 COPIES

Title 40—Protection of Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

PART 124—STATE PROGRAM ELEMENTS NECESSARY FOR PARTICIPATION IN THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

PART 125—NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

Guidelines for Acquisition of Information From Owners of Point Sources

Notice was published in the FEDERAL REGISTER issue of April 19, 1973 (38 FR 9740), at 40 CFR 126, that the Environmental Protection Agency was giving consideration to proposed forms and guidelines for the acquisition of information from owners and operators of point sources of discharge subject to the National Pollutant Discharge Elimination System. These proposals were issued pursuant to the authority contained in the Federal Water Pollution Control Act Amendments of 1972 [86 Stat. 816; 33 U.S.C. 1251 (1972)] (hereinafter referred to as the "Act").

Section 402 of the Act creates a National Pollutant Discharge Elimination System (hereinafter referred to as the "NPDES") under which the Administrator of the Environmental Protection Agency may, after notice and opportunity for public hearing, issue permits for the discharge of any pollutant or combination of pollutants, upon condition that such discharge will meet all applicable requirements of the Act relating to effluent limitations, water quality standards and implementation plans, new source performance standards, toxic and pretreatment effluent standards, inspection, monitoring, and entry provisions, and guidelines establishing ocean discharge criteria.

Section 402 also provides that States desiring to administer their own permit program may submit a full and complete description of such a program to the Administrator for approval. The Administrator is to approve a State's program, and suspend issuance of permits under section 402 unless he determines that the State does not possess adequate authority to perform certain acts detailed in 402(b) of the Act. The State also must have an approved continuing planning process under section 303(e) of the Act before approval of its permit program can be granted. In addition to these requirements, a State permit program cannot be approved unless it conforms to guidelines issued under section 304(h)(2) of the Act prescribing minimum procedural and other elements of any State program under section 402. These latter guidelines were published in the FEDERAL REGISTER on Friday, December 22, 37 FR 28390 (1972).

Comments were received and appropriate changes made to the form and guidelines. In the interest of consolidating all information relating to application for an NPDES permit, the revised guidelines are herein published as final rulemaking in the form of amendments to 40 CFR 125, the NPDES program regulations (38 FR 13528). The revised guidelines are also promulgated herein as an amendment to 40 CFR 124, State Program Elements Necessary for Participation in the NPDES (37 FR 28390).

Principal revisions to the proposed forms are as follows:

1. The degree of analytical accuracy required has been limited to two significant digits, as this is all that is needed to apply the effluent guidelines.

2. "Absent" can now be entered on the effluent description if in the discharger's "reasoned judgment" a constituent is absent; he no longer must be "certain," as this would be impossible without analysis.

3. Instructions for items 7–9 (facility intake water, water use, and discharge), Section I, Form A, have been clarified to indicate that stormwater must be included only if it combines with other flows; this was originally not clear.

4. It has been clarified that substances present in the intake water should be marked "present" on the checklist. However, no analysis is required for purposes of the application; any previous analysis performed should be reported. We eliminated reference to "trace levels" and "drinking water standards" because there are no adequate standards covering enough parameters, and some substances could be toxic even in trace amounts.

5. It has been clarified that discharge descriptions are required for discharges to surface waters, discharges to wells where there is also a discharge to surface waters from the same facility, and discharges to municipal sewer systems if the discharge will not receive treatment prior to discharge to surface waters. This was originally intended but unclear.

6. It has been clarified that certain items "do not apply" to mining operations, in response to a comment to this effect.

Principal revisions to the regulations are as follows:

1. The percentage of industrial contribution necessitating a municipal plant's filing the standard form has been raised from 1 percent to 5 percent, because this is more consistent with the other criteria for filing the Standard Form, i.e., industries discharging over 50,000 gallons per day must file and municipal plants serving over 10,000 population must file. The average size plant serving a population of 10,000 treats approximately one million gallons per day, and 50,000 gpd is 5 percent of one million.

2. It has been clarified that the prohibition on imposing application fees on Federal, State and local facilities applies only to facilities filing applications to EPA. This was originally intended but unclear.

3. It has been clarified that manufacturing facilities discharging to a municipal plant are not required to file the Standard Form C. This was thought to be implicit but comments indicated it was not clear.

4. The requirement, that a manufacturing or commercial facility file the Standard Form if the discharge affects the waters of another State, has been deleted because it is too broad. This criterion remains implicit in the authority to require submission of the Standard Form, whenever necessary, in order to make a decision on the application.

5. The requirement that a manufacturing or commercial facility file the Standard Form if the discharge "contains or may contain" toxic substances has been revised to "contains toxic substances," because "may contain" is too broad.

6. It has been clarified that anyone who applied for a permit under the Refuse Act, whose application was not denied, is not required to reapply unless his discharge has substantially changed in nature, volume, or frequency. This was originally intended but unclear. Also, no further fee will be charged for reapplication unless the substantial change involves an additional outlet or discharge point. This point was not addressed before but comments indicated the need for a policy.

It should be noted that this does not preclude requesting additional information of Refuse Act applicants, including completion of specific items on the Standard Form.

Because of the importance of making NPDES forms and related regulations available as soon as possible to owners and operators of point sources of discharge subject to the NPDES, the Administrator finds good cause to declare that these regulations and the forms, whose notice of availability follows immediately hereafter, are effective immediately.

Dated: July 18, 1973.

JOHN QUARLES,
For Acting Administrator.

Forms for acquisition of information from owners and operators of point sources. Notice was published in the FEDERAL REGISTER issue of April 19, 1973 (38 FR 9740), that the Environmental Protection Agency was giving consideration to proposed forms for the acquisition of information from owners and operators of point sources of discharge. The forms and accompanying instructions describe, pursuant to the authority contained in section 304(h)(1) and 402 of the Federal Water Pollution Control Act Amendments of 1972 (86 Stat. 816; 33 U.S.C. 1251 (1972)), requirements for the acquisition of information from owners and operators of point sources subject to the National Pollutant Discharge Elimination System. Copies of the forms are available at State water pollution control agencies having approved programs and at all Environmental Protection Agency Regional Offices.

A. Part 124 of Title 40 of the Code of Federal Regulations, issued under sections 304(h) and 402 of the Federal Water Pollution Control Act Amendments of 1972 (86 Stat. 816 et seq.; Public Law 92–500, 33 U.S.C. 1251), is amended as follows:

1. Section 124.1 *Definitions* is amended by deleting paragraph (h) and inserting

new paragraphs (h), (i) and (j) as follows:

§ 124.1 Definitions.

* * * * *

(h) The term "NPDES application short form" or "short form" means one or more, as appropriate, of the following:

(1) Short Form A—Municipal Wastewater Dischargers.

(2) Short Form B—Agriculture.

(3) Short Form C—Manufacturing Establishments and Mining.

(4) Short Form D—Services, Wholesale and Retail Trade, and All Other Commercial Establishments Including Vessels, Not Engaged in Manufacturing or Agriculture.

(i) The term "NPDES application standard form" or "standard form" means one or more, as appropriate, of the following:

(1) Standard Form A—Municipal.

(2) Standard Form C—Manufacturing and Commercial.

(j) The term "NPDES application" means the uniform national forms (including the NPDES application short forms, NPDES application standard forms, and any subsequent additions, revisions or modifications duly promulgated by the Administrator pursuant to the Act) for application for an NPDES permit.

2. The definition of the term "NPDES reporting form" is redesignated "(k)," and all subsequent definitions are redesignated accordingly.

3. A new § 124.21 is inserted as follows:

§ 124.21 Application for NPDES permit.

Procedures of any State or interstate agency participating in the NPDES shall insure that every applicant for an NPDES permit complies with NPDES filing requirements. Such procedures and requirements shall include the following:

(a) Except as provided in paragraphs (b) and (c)(4) of this section and except as provided by the Administrator in regulations issued under the act, any person discharging or who proposes to discharge pollutants shall complete, sign, and submit an NPDES application short form in accordance with the instructions provided with such form.

COMMENT. Federal filing requirements for the NPDES include the timely filing of a properly completed Refuse Act or NPDES application form. State and interstate agencies may specify, where necessary, additional filing requirements such as the submission of engineering reports, plans, and specifications for present or proposed treatment or control of discharges of pollutants. While duplication should be avoided, the Administrator recognizes that the NPDES application form may not by itself satisfy the needs of every participating program.

(b) Any person who filed a complete Refuse Act application and whose application has not been denied is not required to apply for a permit under these regulations unless the discharge described in the application for a Refuse Act permit has substantially changed in nature, volume, or frequency. Such complete Refuse Act permit application shall be considered to be an application under the NPDES and shall be treated accordingly. If, however, the discharge described in the Refuse Act permit application has substantially changed in nature, volume, or frequency, the applicant shall complete, sign and submit the appropriate NPDES application form, as provided in paragraph (a) or (c) of this section.

(c)(1) If the information submitted by an applicant for an NPDES permit in Short Form A (relating to municipal wastewater treatment facilities) or any other information available to the Director or the Regional Administrator indicates any of the following, the applicant shall be required to complete, sign and submit a Standard Form A:

(i) The discharges from the facility have a total volume of more than 5 million gallons on any day of the year;

(ii) The facility serves a population in excess of 10,000; or

(iii) The facility receives wastes from an industrial user and such wastes

(A) Have a total volume of more than 50,000 gallons on any day of the year,

(B) Contain toxic pollutants,

(C) Have a total volume which constitutes more than 5 percent of the volume of the total discharge from the facility on any day of the year, or

(D) Alone or in combination with other discharges into the facility interfere with the operation of the facility or adversely affect the quality of the discharge from the facility.

(2) If the information submitted by an applicant for a permit on Short Form C (relating to manufacturing establishments and mining) or on Short Form D (relating to services, wholesale and retail trade, and all other commercial establishments, including vessels, not engaged in manufacturing or agriculture) or any other information available to the Director or the Regional Administrator indicates any of the following, the applicant shall be required to complete, sign, and submit a Standard Form C:

(i) The discharges (except those to publicly owned treatment works) from the facility have a total volume of 50,000 gallons on any day of the year;

(ii) The discharges (except those to publicly owned treatment works) contain toxic pollutants.

(3) In addition to paragraph (c)(1) or (2) of this section, an applicant shall complete, sign, and submit the appropriate standard form if the Director or the Regional Administrator determines that such submission is necessary to determine whether or not and upon what conditions a permit should be issued for the discharges identified in the short form.

(4) Any applicant may submit a standard form without prior submission of a short form if he complies with all applicable filing dates and requirements.

(d) A requirement that any person wishing to commence discharges of pollutants after July 16, 1973, must file a complete NPDES application either (1) no less than 180 days in advance of the date on which it is desired to commence the discharge of pollutants, or (2) in sufficient time prior to the commencement of the discharge of pollutants to insure compliance with the requirements of section 306 of the Act, or with any applicable zoning or siting requirements established pursuant to section 208(b)(2)(C) of the Act, and any other applicable water quality standards and applicable effluent standards and limitations.

COMMENT. The purpose of this requirement is to insure that the Director has sufficient time to examine applications from new sources of discharge of pollutants and to apply standards of performance without unnecessarily delaying scheduled startup. The sooner the Director can specify requirements for new sources, the more easily the applicant can modify his plans, if necessary, without disruption and waste. Those State or interstate agencies which begin review at the planning stages of a new project are in the best position to insure orderly compliance with new source standards.

(e) Procedures which (1) enable the Director to require the submission of additional information after a Refuse Act or an NPDES application has been filed, and (2) insure that, if a Refuse Act or NPDES application is incomplete or otherwise deficient, processing of the application shall not be completed until such time as the applicant has supplied the missing information or otherwise corrected the deficiency.

COMMENT. The Director may find he needs information other than that initially filed by the applicant in order to make a permit decision. The Director should not hesitate to go back to the applicant for further information. In some cases, nothing less than an on-site inspection of an applicants' pollution control technology and practices will suffice.

No NPDES permit should be issued until the applicant has fully complied with the filing requirements specified in this subpart. If an applicant fails or refuses to correct deficiencies in his NPDES application form, the Director should take timely enforcement action.

B. Part 125 of Title 40 of the Code of Federal Regulations, issued under sections 304(h)(1) and 402 of the Federal Water Pollution Control Act Amendments of 1972 (86 Stat. 816 et seq.; Public Law 92-500, 33 U.S.C. 1251), is amended as follows:

§ 125.1 [Amended]

1. Section 125.1 *Definitions* amended to change paragraph (g) to "The term 'Director' means the Director of a State or interstate water pollution control agency." The definition of the term "discharge" is redesignated "(h)," and all subsequent definitions are redesignated accordingly.

§ 125.2 [Amended]

2. In § 125.12(b), a second paragraph is added after "accordingly", to read as

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follows: "Where the discharge described in the Refuse Act permit application has substantially changed in nature, volume or frequency, the applicant shall complete, sign and submit the appropriate NPDES application form, as provided in paragraph (g) or (h) of this section.

Where the substantially changed discharge involves addition of an outlet from which a discharge shall flow, the appropriate fee will be calculated as provided in paragraph (i) (1) or (2) of this section, after deduction of the fee submitted with the Refuse Act permit application."

§ 125.12 [Amended]

3. In § 125.12(h) (1) "or the Director" is added after "Regional Administrator."

4. In § 125.12(h) (1) (iii) (C) "1 percent" between "than" and "of" is changed to "5 percent."

5. In § 125.12(h) (1) (iii) (D) "Alone or" is added before "In combination."

6. In § 125.12(h) (2) "or the Director" is added after "Regional Administrator."

7. In § 125.12(h) (2) (i) and (iii) "(except those to municipal wastewater treatment facilities)" is added after "The discharges."

8. Section 125.12(h) (2) (ii) is deleted. Section 125.12(h) (2) (iii) is redesignated "125.12(h) (2) (ii)."

9. In § 125.12(h) (2) (iii) "or may contain" is deleted between "contain" and "pollutants."

10. In § 125.12(h) (3) "or the Director" is added after "Regional Administrator."

11. In § 125.12(i) (5) "to the Administrator" is added after "not be required to pay any fee."

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WEDNESDAY, AUGUST 28, 1974

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PART III

federal register

ENVIRONMENTAL PROTECTION AGENCY

■

WATER QUALITY AND POLLUTANT SOURCE MONITORING

Proposed Rules

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ENVIRONMENTAL PROTECTION AGENCY

[40 CFR Part 35]

[FRL 223-5]

WATER QUALITY AND POLLUTANT SOURCE MONITORING

Notice of Proposed Rulemaking

Regulations are hereby proposed for monitoring in State and interstate water pollution control programs. Interim regulations were promulgated on June 29, 1973 to re-codify portions of 40 CFR Part 35, which pertain to grant awards for water pollution control programs. The interim regulations were published without Appendix A, Water Quality and Pollutant Source Monitoring, which is set forth below.

The Federal Water Pollution Control Act, as amended (33 U.S.C. 1251, et seq.), stipulates that no grant shall be made under Section 106 of the Act to any State, beginning in fiscal year 1974, which has not provided or is not carrying out as part of its program the establishment and operation of appropriate devices, methods, systems, and procedures necessary to monitor, and to compile and analyze data on (including classification according to eutrophic condition), the quality of navigable waters and to the extent practicable, ground waters including biological monitoring; and provision for annually updating such data and including it in the report required under section 305 of the Act. Monitoring is required by Titles I, II, III and IV of the Act, and this Appendix sets forth the monitoring requirement each State must meet.

The objectives of the State monitoring program required by these regulations are to determine compliance with permit terms and conditions, to develop and maintain an understanding of the quality (and causes and effects of such quality) of all waters in the State for the purpose of supporting all State water pollution control activities, to report on such quality and its causes and effects, and to assess the effectiveness of the State's water pollution control program.

The Director of the water pollution control agency in each State is required to develop and implement a strategy for progressing systematically toward implementation of the requirements set forth in this Appendix. The requirements described herein include:

Development of a monitoring strategy;
Coordination with other entities;
Support to the State continuing planning process;
Intensive monitoring surveys;
A primary monitoring network;
Compliance monitoring;
Evaluation of water quality with respect to standards;
Toxic pollutant monitoring;
Groundwater monitoring;
Classification of publicly owned fresh water lakes by eutrophic conditions;
Laboratory support and quality assurance;
Data reporting, handling, and storage;
Collection, analysis, and evaluation of the basic information needed for the annual inventory reports required by Section 305(b) of the Act; and
Annual planning and reporting of program accomplishments in monitoring.

Interested parties are encouraged to submit written comments, suggestions, views, or data concerning these proposed regulations including views as to the desirability of issuing various portions of this information as a regulation or as a guideline to: Director, Grants Administration Division, Environmental Protection Agency, Washington, D.C. 20460. All information received on or before October 15, 1974, will be considered before final regulations are promulgated.

Dated: August 15, 1974.

JOHN QUARLES,
Acting Administrator.

Appendix A—Water Quality and Pollutant Source Monitoring

A. Purpose. This Appendix establishes and codifies details of the grant award limitations for monitoring described in Paragraph 35.559-6 of this Part and sets forth the requirements the States must meet to satisfy the monitoring provisions in Titles I, II, III, and IV of the Act.

B. Objectives and general requirements. The objectives of the State monitoring program required by the Act and these regulations are to determine compliance with permit terms and conditions, to develop and maintain an understanding of the quality (and causes and effects of such quality) of the waters in the State for the purpose of supporting State water pollution control activities, to report on such quality and its causes and effects, and to assess the effectiveness of the State's pollution control program. To this end each State shall carry out a broad range of monitoring activities both before and after implementing pollution controls, including measurement of pollutant sources, water quality, the factors affecting water quality, and the specific effects of such quality upon beneficial uses of the State's waters.

C. Definitions. As used in this Appendix, the following terms shall have the meaning set forth below:

(1) The term "Act" means the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251, et seq.).

(2) The term "EPA" or "USEPA" means the U.S. Environmental Protection Agency.

(3) The term "Administrator" means the Administrator of the U.S. Environmental Protection Agency.

(4) The term "Regional Administrator" means the Regional Administrator of the EPA Region of which the State is a part.

(5) The term "Director" means the chief administrative officer of a State or interstate water pollution control agency. In the event that responsibility for water pollution control and enforcement is divided among two or more State or interstate agencies, the term "Director" means the administrative officer authorized to perform the particular procedure referred to.

(6) The term "basin" means the streams, rivers, lakes and tributaries and the total land and navigable water area contained in one of the major or minor basins defined by EPA, or other basin units as agreed upon by the State(s) and the Regional Administrator. Unless specified otherwise, "basin" shall refer only to those portions within the borders of a single State.

(7) The term "principal aquifer" means an aquifer that serves a significant portion of the population, yields a significant amount of the water used in an area, or is being, or should be reserved for such use.

(8) The term "segment" means a portion of a basin the navigable waters of which have common hydrologic characteristics (or flow regulation patterns); common natural physical, chemical, and biological processes; and common reactions to external stresses, e.g., discharge of pollutants.

(9) The term "reach" means a subdivision of a segment.

(10) The term "water quality limited segment" means any segment where it is known that water quality does not meet applicable water quality standards and which is not expected to meet water quality standards even after the application of the effluent limitations required by sections 301(b)(1)(A) and 301(b)(1)(B) of the Act.

(11) The term "principal discharger" means any person, who, in the judgment of the Director or Regional Administrator, is causing or may be causing serious or critical water quality problems, or who in the judgment of the Director or Regional Administrator should be designated as a principal discharger because of condition of discharge or substantial pretreatment requirements.

(12) The term "cluster" means two or more dischargers which discharge pollutants in such a way that the combination of their effluents causes or may cause water quality standards to be violated.

(13) The term "National Pollutant Discharge Elimination System (NPDES)" means the national system for the issuance of permits under sections 402 and 405 of the Act and includes any State or interstate program approved by the Administrator, in whole or in part, pursuant to Section 402 and 405 of the Act.

(14) The term "permit" means any permit or equivalent document or requirements issued by the Administrator, or, where appropriate, by the Director to regulate the discharge of pollutants pursuant to section 318, 402, 404, and 405 of the Act.

(15) The term "discharger" means any person responsible for the discharge of a pollutant.

(16) The term "parameter" means a quantity or characteristic which describes physical, chemical, or biological conditions such as: temperature; dissolved oxygen; color; count, species composition, or condition of aquatic organisms; streamflow; velocity; and area of channel cross-section.

(17) The term "representative point" means a location in navigable waters, groundwaters, sewer systems, or discharger facilities at which specific conditions or parameters may be measured in such a manner as to characterize or approximate the same at some other location, or throughout a reach, segment, or body of water.

(18) The term "monitoring station" or "station" means a representative point or a point of access to navigable water, groundwater, or pollutant discharge at which parameters have been measured, are being measured, or are planned to be measured.

(19) The term "self monitoring" means any measuring and analyzing activities carried out by a permittee in accordance with permit requirements.

(20) The term "compliance monitoring" means measuring and analyzing pollutant sources, review of reports and information obtained from dischargers, and all other activities conducted by the Director, to detect and/or verify violations of permit conditions, such as effluent limits and compliance schedules.

(21) The term "intensive survey" means the frequent sampling or measurement of parameters at a set of monitoring stations for a relatively short period of time to determine cause, effect, or cause and effect relationships of water quality conditions.

(22) The term "mass balance" means the quantified account of inputs, outputs, losses,

and storage of a material or constituent in a segment, reach, or body of water.

(30) The term "continuing planning process" or "planning process" means the continuing planning process required by section 303(e) of the Act and 40 CFR Parts 130 and 131.

(34) The term "significant lake" means any publicly owned fresh water lake which the Director designates as significant for reasons such as recreational value, significance of public use, eutrophic condition, and size.

(35) The term "agricultural wastes" means the discharge of pollutants from agricultural operations.

(36) The term "rural runoff" means the nonpoint source runoff from nonurban lands in which pollutants are carried into navigable waters.

(37) The term "monitoring activity" means any of the following activities described in this appendix: Coordination with other entities; planning process support; intensive monitoring surveys of navigable waters; state primary network monitoring; compliance monitoring; evaluation of water quality with respect to standards; toxic pollutant monitoring; groundwater monitoring; classification of publicly owned fresh water lakes by eutrophic conditions; laboratory support and quality assurance; data reporting, handling and storage; annual reporting or any other monitoring activity carried out by the Director or required by the Regional Administrator to meet or assist in meeting any objective of the Act.

(38) The definitions of the following terms contained in section 502 of the Act shall be applicable to such terms as used in this part unless the context requires otherwise: "State water pollution control agency," "State," "pollutant," "discharge of a pollutant," "effluent limitation," "toxic pollutant," "point source," "biological monitoring," "discharge," "pollution," "navigable waters," and "person".

D. *Eligibility.* A grant may be awarded to a State water pollution control agency which has submitted an application meeting the program requirements of these regulations provided, however, that the Regional Administrator has approved the program including specific approval of the monitoring program being carried out by the Director to meet the requirements set forth in this Appendix. For interstate agencies, the Regional Administrator may waive any requirement set forth in this Appendix which is not applicable to the particular interstate agency.

E. *Monitoring Strategy.* The Director shall develop, maintain, and implement a Statewide monitoring strategy as part of, and consistent with, the overall State strategy required by regulations published pursuant to section 303(e) of the Act in Part 130 of this Chapter. The monitoring strategy shall conform with the requirements of this Appendix and the Regional Administrator, and it shall:

(1) Detail the present monitoring activities being carried out by the Director as well as those being carried out by other entities insofar as the Director relies upon them to satisfy requirements of this Appendix;

(2) Describe the monitoring plan necessary to progress systematically toward implementation of these regulations. The plan shall define the monitoring program to be achieved by June 30, 1977, set the priorities for attainment of the several monitoring activities required by this Appendix, estimate the level of resources which will be applied to each activity, show milestones with planned dates of implementation, and describe generally what will be done in each of the monitoring activities. The program to be achieved by June 30, 1977, shall be defined in a manner consistent with anticipated program emphasis as determined from the EPA water quality strategy paper, the overall State strategy, State needs, and requirements of the Regional Administrator.

The monitoring strategy shall be submitted to the Regional Administrator by June 15, 1975, as part of the State's program submission and need not be submitted in subsequent years, except when changes to the strategy are made, or as required by the Regional Administrator. The Regional Administrator shall review the monitoring strategy of each State and interstate pollution control agency grant recipient each year and require that it be revised or upgraded if in his judgment either the monitoring program or strategy is inadequate to meet the requirements set forth in this Part.

F. *Program Accomplishment Planning and Review.* As part of the midyear program assessment described in 40 CFR 35.500.1(a), State representatives shall meet with EPA Regional Office representatives to discuss accomplishments and difficulties encountered in fulfilling the monitoring strategy, to plan for monitoring in the coming year, to discuss proposed strategy modifications, and to exchange ideas of mutual interest relating to monitoring.

G. *Coordination with other entities.* The monitoring activities carried out pursuant to these regulations are the responsibility of the Director. However, monitoring activities conducted by other State and Federal agencies, organizations, legal subdivisions of the State, and municipalities should be encouraged and integrated into the State monitoring program where possible to help meet requirements set forth under this Part, provided that laboratory support and quality assurance requirements specified herein are satisfied.

The Director is encouraged to utilize the *Catalog of Information on Water Data*, maintained by the Office of Water Data coordination (OWDC) of the U.S. Department of Interior (USDI) and the related water-data program and coordination activities of the OWDC in developing and carrying out the monitoring activities required by these regulations.

H. *Planning process support.* (1) Water quality conditions including causes and effects, must be measured where needed to support the State's continuing planning process. Monitoring for this purpose must be conducted in such a manner as to enable prediction of environmental changes in receiving water resulting from pollution control actions, changes in pollution loads, and changes in hydrologic regimes. After implementing pollution controls, measurements of causes and effects of pollution, including the physical, chemical, and biological conditions involved, are required to determine the extent to which the control actions taken were successful, and to update or redirect pollution control plans.

(2) Monitoring before and after implementing pollution controls in areas of significant pollution sources, clustered pollution sources, localized nonpoint sources of pollution, and major bodies of water which are known or suspected to be accumulating pollutants should consist of intensive surveys, described in Paragraph I below, which include analyses of the pollution sources and receiving waters.

(3) Compliance monitoring data, self monitoring data, and data obtained from the State primary monitoring network must be evaluated by the Director each year to determine whether the cause and effect relationships found through previous surveys continue to be valid in accounting for current water quality. When such relationships are found to be no longer valid, the pollutant sources and receiving waters must be re-surveyed to support the continuing planning process.

I. *Intensive monitoring surveys of navigable waters.* Intensive monitoring surveys shall be conducted in navigable waters for the following purposes:

(1) Setting priorities for establishing or improving pollution controls;

(2) Determining quantitative cause and effect relationships of water quality, including measuring and evaluating the contribution of pollutants to navigable waters and/or groundwaters from point and nonpoint sources and determining the biological, physical, chemical, and eutrophic conditions of publicly owned fresh water lakes;

(3) Obtaining data for updating water quality management plans, and where appropriate, setting effluent limits and verifying the classifications of segments developed pursuant to Parts 130 and 131 of this Chapter;

(4) Determining the extent to which pollution control actions taken were successful;

(5) Assisting, where necessary, to determine whether or not given discharges will, or do comply with section 301, 302, 306 or 307 of the Act;

(6) Determining any additional water quality management actions required.

An annual schedule of surveys to be conducted shall be submitted to EPA with the State program submission. The levels of effort devoted to a given monitoring survey shall depend upon the severity and complexity of the pollution problem in the survey area. For special purpose studies, the Regional Administrator may waive any particular requirements set forth below for intensive surveys.

The intensive surveys shall provide the basis for analyzing water quality conditions within the survey area and for evaluating the adequacy of the design and operation of the treatment facilities for all principal municipal and industrial dischargers affecting the study area. Station locations, parameter coverage, and sampling frequencies for intensive surveys shall be consistent with particular objectives of the study and with known or suspected forms and variability of pollution occurring in the survey area, and shall be as follows:

(1) *Station locations.* Monitoring stations shall be located in the survey area in such a manner as to measure inputs, transformations, movements, and outputs of pollutants within, to, and from the survey area, including stations located as follows:

(a) In wastewater outfalls or at representative sites for measuring pollutant contributions from point and nonpoint sources;

(b) In receiving waters including stations to define mixing and stratification characteristics and profiles or gradients of water quality with respect to distance, and, where necessary, for determining mass balances of pollutants;

(c) At study area boundaries for measuring flow and water quality entering and leaving the study area;

(d) At locations particularly selected for biological monitoring;

(e) In sediment deposits for measuring benthic demands, concentrations of pollutants in sediments, and the extent to which sediments are as sinks or sources for the various constituents of the water, and for investigating, where needed, sediment transport of pollutants;

(f) At locations as may be required to define other pollutant sources, factors, and sinks for completing determinations of mass balances of pollutants.

(2) *Parameter coverage.* The physical, chemical, biological, microbiological, hydraulic, hydrologic, climatic, and geometric parameters to be measured during monitor-

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ing surveys will depend upon the survey purpose and local conditions, and should be tailored to the specific pollution problems of the area. However, all surveys shall include, at representative sites, measurements of dissolved oxygen, temperature, specific conductance, pH, and pollutants known or suspected to be entering the navigable waters of the survey area from specific point sources of pollution. All surveys of flowing streams shall include measurements of streamflow or estimates thereof where measurement is not possible or practical.

Depending upon the survey purpose and local conditions within the study area, some or all of the following parameters shall be measured where needed to satisfy objectives of the particular study and to fulfill requirements set by the Regional Administrator:

(a) Water quality and related parameters which measure intermediate forms or final effects of pollutants—such as nutrients in various forms, and standing crop of plankton, periphyton, or aquatic plants—to determine rates of transformation of water constituents from one form to another and to determine balances of materials affecting water quality;

(b) Biological parameters to evaluate the balance and condition of communities of aquatic organisms and eutrophic conditions, including standing crop, diversity of aquatic communities, and indicator organisms, in accordance with, but not limited to, parameters listed in Table I;

(c) Biologically related chemical and physical measurements, analyses, and observations, including chemical analyses of tissue of aquatic organisms as necessary to determine the presence and extent of toxic materials;

(d) Microbiological parameters, where appropriate, including indicator organisms and/or specific pathogens in water, sediments, and aquatic biota including shellfish;

(e) Hydraulic and geometric parameters of the streams and bodies of waters in the study area if such data are not otherwise available at representative sites. Such parameters include cross-sectional area and depth, or mean width and depth; stream velocities or times of travel related to flow in streams and estuaries; stage measurements in tidal waters and lakes where water quality is affected by stage variations.

(3) *Sampling Frequencies.* Sampling frequencies must be determined on the basis of the variability of each of the parameters associated with the pollution problem, and must be adequate to define the pollution problem within statistically determined confidence intervals acceptable to the Regional Administrator. The sampling frequencies during intensive surveys must be adequate to determine mass balances of pollutants where necessary to define fluctuations of water quality and related parameters in receiving waters and pollutant sources. Most stations close to pollution sources, in tidal waters, or where diurnal or diel variations occur, must be sampled several times a day during intensive surveys so as to define the behavior of the pollutants and receiving water during each intensive survey.

In complex problem areas, monitoring surveys should be conducted in more than one season in such a manner as to reflect seasonal variations in water quality.

Each year, prior to approval of the State program for the next year, the Regional Administrator may require that the Director include, in the design of any survey(s) to be conducted in the next year, monitoring requirements with respect to any one or a combination of the following:

(a) Sampling frequencies;
(b) Parameters to be measured;
(c) Station locations; and
(d) Time of survey.

The Regional Administrator may likewise require intensive surveys on reaches or segments to provide a basis for setting effluent limits where, in his judgment, monitoring data show that such reaches or segments are water quality limited.

J. State primary network monitoring. To establish baselines of water quality, to assist in determining whether or not pollutant dischargers comply with sections 301, 302, 306 and 307 of the Act, to maintain compliance of water quality conditions throughout the State and to obtain basic information needed for reports required by Section 305(b) of the Act, the Director shall establish and maintain a network of primary water monitoring stations in navigable waters for use in obtaining physical, chemical, and biological data, as well as data taking into account seasonal, tidal, and other variations. The network shall be designed and operated in such a manner as to provide information which, when taken in combination with compliance monitoring data, self monitoring data, and information from intensive surveys, will show whether and to what degree water quality management activities are protecting the quality of the State's navigable waters.

The number and location of monitoring stations, parameter coverage, and sampling frequencies must be adequate to represent the quality of the navigable waters of the State in the annual inventory reports required under Section 305(b) of the Act. Station locations, parameter coverage, and sampling frequencies shall be as follows:

(1) *Station Locations.* Various types of monitoring stations including stations for monitoring stream quality, lake quality, estuarine and coastal water quality, biological conditions, hydrologic conditions, and sediment conditions, are required in the primary network. Primary stations shall be located in navigable waters as follows unless water quality at such locations may be represented by other stations:

(a) At a point within intensive survey areas, which on the basis of information from such surveys, represents reaches having the most critical water quality problems;

(b) At stations upstream and downstream of major population and/or industrial centers on flowing streams where it is possible to sample stream quality in a manner to represent differences in such quality occurring as a result of pollutant discharges from such centers;

(c) At points within lakes, reservoirs, estuaries, and coastal waters as necessary to measure water quality, eutrophic condition, bio-accumulation, and accumulation of pollutants in water and sediments;

(d) In major high quality water use areas, such as public water supply intakes, shellfish harvesting areas, and recreational areas;

(e) In stream-bed sediments;

(f) Within each morphologic zone in the State (i.e., mountains, piedmont, coastal plain) where access is practicable. Such stations shall be located in stream segments largely unaffected by man's activities for determining background levels or baselines of water quality and biological populations.

(2) *Parameter Coverage and Sampling Frequencies.* Water quality samples and measurements must be representative of the variations in water quality and changes in pollution occurring during the year. Streamflow shall be determined concurrently with water quality measurements at all primary stations in rivers and streams. Flow may be determined either by direct measurement or by estimation using nearby stream gauges or measurements at representative sites following guidelines for measurement of flows presented in the Federal interagency report, *Recommended Methods for Water Data Acquisition* (OWDC, USDI). Stage or water surface elevation shall be determined concurrently with water quality measurements in lakes, reservoirs and estuaries if and where water quality variations are apparently related to stage variations. Sampling frequencies shall conform to minimum requirements indicated in parentheses below unless the Director and the Regional Administrator concur that representation of water quality can be equalled or improved by utilizing other frequencies with acceptable resource commitments; in that case, such other frequencies shall be used. Parameter coverage and sampling frequencies for each primary station agreed upon by the Director and the Regional Administrator shall include, where relevant:

(a) Parameters known or suspected to be associated with major upstream pollution sources such as areas of high population, industrial centers, agricultural and urban runoff, and mine drainage; and parameters specifically mentioned in the State's water quality standards relating to the sampling area (monthly or more often as necessary to be representative of variations in water quality during the year);

(b) Stage measurements in tidal waters and measurements of fresh water inflow to estuaries (concurrently with water quality measurements, measured or estimated from measurements at representative sites, taking into account flushing times and tidal phasing);

(c) Heavy metals and other toxic materials, oil and grease, chemical oxygen demand, total Kjeldahl nitrogen, and pesticides, in sediments at sediment stations (annually);

(d) Dissolved oxygen, temperature, specific conductance, and pH, at all primary monitoring stations (monthly beginning in Fiscal Year 1975);

(e) Total phosphorus, total Kjeldahl nitrogen, dissolved nitrite plus nitrate, total organic carbon, and chemical oxygen demand at all primary monitoring stations (monthly beginning in Fiscal Year 1975);

(f) Biological parameters at selected stations, including chlorophyll *a* and parameters sufficient to evaluate the balances and conditions of indigenous communities of aquatic organisms, including standing crop, species diversity, and the presence or absence of indicator organisms in accordance with, but not limited to, parameters and frequencies shown in Table I;

(g) Biologically related chemical and physical analyses and observations at selected stations, including chemical analyses of tissue as necessary to determine presence, extent, and impact of toxic pollutants designated under Section 307(a) of the Act (annually);

(h) Microbiological parameters, both indicator organisms and specific pathogens where appropriate, in both navigable waters and commercially harvestable shellfish sampled at selected stations (as required).

Each year, prior to approval of the State program for the next year, the Regional Administrator may require that additional measurements be made in the primary network during the next year at specific new, or previously established, stations and frequencies and for particular parameters if, in his judgment, the primary monitoring network is deficient in such respects.

K. Compliance monitoring. Compliance monitoring requirements for a given State shall be carried out as follows:

(1) In States having approved NPDES permit programs, the Director shall carry out monitoring activities to determine compliance with permits, to validate self-monitoring reports, and as necessary, to provide support for enforcement actions. Procedures for carrying out such activities shall be as mutually agreed upon by the Director and the

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Regional Administrator. The Director shall inspect the facilities of dischargers, described in Subparagraphs (a), (b), and (c) below, including, where appropriate, effluent sampling and examination of monitoring records, reports, equipment, and methods. Such inspections are required as follows:

(a) *Principal Dischargers*—The Director shall designate principal dischargers and identify them as such in the list of dischargers required by Subpart D of Part 130 of this chapter. The Regional Administrator may identify specific dischargers which the Director shall designate as principal dischargers. The Director shall update such identifications in the list of dischargers and ensure, each year, that they are accurate. The Director shall conduct inspections, including effluent sampling, at least once each year at the facilities of all dischargers designated as principal dischargers;

(b) *Selected Dischargers*—Inspections, with or without effluent sampling, as appropriate, shall be conducted at the facilities of selected dischargers not included in Subparagraph (a) above. The method of selecting such other dischargers to be inspected shall be based upon random selection each year or shall be as mutually agreed upon by the Director and Regional Administrator;

(c) *Follow-Up Investigations*—The Director shall review self-monitoring data, reports obtained from permittees, complaints, data obtained from activities described in Subparagraph (a) and (b) above, and any other available data sources for the purpose of identifying permit violations and permittee report errors. When permit violations are indicated, the Director shall take appropriate action in accordance with the Act and Parts 124 and 125 of this Chapter.

(2) In States not having approved NPDES permit programs, but having authorities similar to those provided under Section 308 of the Act, the Director may to the extent authorized by the Regional Administrator, conduct inspections similar to those described in Subparagraph (1) above in connection with EPA issued permits.

(3) While conformance with the quality assurance requirements described in Paragraph P below is required in all monitoring activities included in this Appendix, extraordinary emphasis shall be placed upon quality assurance in the compliance monitoring activities, and all samples shall be collected, preserved, and analyzed in accordance with the quality control requirements described in Paragraph P.

L. *Evaluation of Water Quality With Respect to Standards.* In each State, the Director shall review data obtained from the primary monitoring network and any other available pertinent data for the purpose of identifying waters apparently not in compliance with water quality standards. In the event that such noncompliance is indicated, the Director shall evaluate the apparent violations and proceed as in Subparagraph K (1)(c) above; in States not having approved NPDES permit programs, he shall notify the Regional Administrator of the violations in mutually agreed upon manner. The Director shall also take appropriate action through the State's continuing planning process in the event of such violations. Intensive surveys, described in Paragraph I above, may be required in such cases to determine the magnitude, extent, and cause of violations.

M. *Toxic Pollutant Monitoring.* Studies and systematic sample collection from navigable waters, groundwaters, sediments, and biological communities are required to determine whether toxic pollutants, designated under Section 307(a) of the Act, are entering the State's water and for determining their origin and the priority for appropriate control action in the event they are found.

N. *Groundwater Monitoring.* The Director shall designate principal aquifers in a manner mutually agreeable to the Regional Administrator. In the designation of principal aquifers, the Director should utilize aquifer testing and classification methodology presented in the Federal interagency report, *Recommended Methods for Water-Data Acquisition* (OWDC, USDI) for developing and carrying out the State-wide groundwater monitoring program. Initial designation shall be completed in Fiscal Year 1975, based upon existing data, and updated as necessary. To the extent practicable, the Director shall establish and maintain a State-wide groundwater monitoring program which shall consist of a network of groundwater quality monitoring stations sampled in a systematic manner and designed to determine baseline conditions and provide early detection of pollution. A program of identification and surveillance of existing and potential groundwater pollution sources shall complement this network.

Groundwater quality monitoring shall be conducted at representative points relative to groundwater pollution sources and in areas of high utilization of groundwater. The location of groundwater monitoring stations will be dictated by the type and distribution of potential pollution sources. Selected water supply wells may be utilized for monitoring purposes. However, installation of additional monitoring wells may be necessary where experience shows that existing wells and other groundwater monitoring stations do not provide adequate coverage.

Parameter coverage will vary with natural and manmade conditions and with use of the groundwater. Sampling frequency will be dictated by local conditions and the potential threats involved. Each year, prior to approval of the State program for the next year, the Regional Administrator may require that additional groundwater measurements be made during the next year at specific locations and frequencies and for particular parameters if, in his judgment, the State's groundwater monitoring program is deficient in such respects. Groundwater related inventories are required as follows:

(1) *Inventory of Groundwater Monitoring Stations*—The Director shall develop and maintain an inventory of existing wells which are or may be suitable for inclusion in the State-wide groundwater monitoring network. This inventory shall be developed by April 15, 1976, and shall be updated as additional wells are selected or installed for the purpose of determining groundwater quality in accordance with this Appendix. Types of groundwater quality monitoring wells to be identified in the inventory include, but are not limited to, wells for saline water intrusion monitoring, baseline monitoring, routine monitoring in zones of high utilization of groundwater, and monitoring in the vicinity of pollution sources. The *Catalog of Information on Water Data*, maintained by the OWDC, USDI, should be consulted and utilized to the extent practicable in developing the inventory.

(2) *Inventory of Groundwater Pollution Sources*—Monitoring is required of waste disposal sites and other pollution sources which pollute or threaten pollution of the groundwaters of the State. Where appropriate, the types of pollution sources to be monitored include, but are not limited to, injection wells, sanitary landfills, chemical stockpiles, municipal and industrial waste lagoons, waste holding ponds, and sludge drying beds. Each State shall develop an inventory of groundwater pollution sources by April 15, 1976, and thereafter the inventory shall be updated annually.

O. *Classification of Publicly Owned Fresh Water Lakes by Eutrophic Conditions.* As part of maintaining an understanding of the nature and extent of water quality conditions for the State, the Director shall prepare by April 15, 1975, an inventory of publicly owned fresh water lakes including descriptive information on lakes which the Director designates as significant. The Director shall provide the Regional Administrator with a description of the criteria used in selecting lakes to be designated as significant and shall maintain the inventory and improve it as additional pertinent information is obtained. The principal emphasis in preparing, maintaining, and improving the inventory shall be in obtaining information on lakes which exhibit noticeable eutrophy. Initially, the inventory may include estimates when specific information is not known. It shall include the following information for lakes or the portions thereof which are included within the State:

(1) Number and total combined area of publicly owned fresh water lakes;

(2) Number and total combined area of significant lakes;

(3) Number and total combined area of significant lakes which are known to exhibit noticeable eutrophy as indicated by abnormal quantities or types of algae, aquatic plants, sedimentation, and other specified indicators or environmentally modifying factors. Such other indicators may include dissolved oxygen, pH, total phosphorous, total Kjeldahl nitrogen, and total organic carbon, particularly if their measured or estimated values are beyond the limits of applicable water quality standards;

(4) Number and total combined area of significant lakes that are known to exhibit no noticeable eutrophy or other problems;

(5) Number and total combined area of significant lakes for which the presence or absence of noticeable eutrophy is not known.

For each significant lake or reservoir that exhibits noticeable eutrophy or other problems, the following information must be supplied:

(1) Name, location, average depth, area of lake surface area, and square miles of drainage area constituting surface water runoff to the lake;

(2) Nature of problem reported as algae, aquatic plants, sedimentation, and/or other specified indicators or environmentally modifying factors;

(3) Cause(s) of problem reported for each of the following categories as principal cause, intermediate contributing cause, or not applicable or identifiable cause:

(a) Municipal waste (including names or appropriate identification of municipal sources),

(b) Industrial waste (including names of appropriate identification of industrial sources),

(c) Septic tanks,

(d) Agricultural wastes,

(e) Urban storm drainage (including names or appropriate identification of urban sources),

(f) Rural runoff,

(g) Natural,

(h) Other (identify).

(4) Narrative comments when needed for clarification.

P. *Laboratory Support and Quality Assurance.* The State water monitoring program shall produce data and information which may be used to describe the quality of State waters and characteristics of pollution sources in an accurate and consistent manner. Emphasis shall be placed upon quality assurance, and all samples required by this Appendix shall be collected, preserved and analyzed in accordance with

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the quality control requirements set forth in this paragraph.

Laboratories (or combinations of laboratories) supporting the State monitoring program shall provide physical, professional, and analytical capabilities and quality assurance as follows:

(1) Physical and professional capabilities shall be adequate to perform analyses, in compliance with items 2 thru 6 below, for each of the water quality measurements listed in regulations published in Part 136 of Subchapter D of this Chapter, pursuant to Section 304(g) of the Act, and biological measurements listed in Table 1.

(2) Sample preservation for effluent analyses shall be conducted according to methods cited in the EPA manual entitled *Methods for Chemical Analysis of Water and Wastes*, unless superseded by sample preservation methods cited in Part 136 of Subchapter D of this Chapter. All other sample preservation shall be conducted in accordance with generally acceptable practices unless otherwise required by the Regional Administrator. Likewise, sample collection and handling shall be conducted in accordance with generally accepted procedures unless otherwise required by the Regional Administrator.

(3) Time-sensitive samples shall be delivered from the field and analyzed within specified holding times. Until superseded by designation in published EPA analytical reference methods, maximum holding times for sensitive samples shall be as specified in the EPA manual identified in Subparagraph (2) above.

(4) Procedures shall be instituted for assuring sample integrity during sampling, transport, storage, and analysis.

(5) For any samples collected for the purpose of providing evidence in enforcement actions, the Director shall follow such chain of custody procedures as will satisfy State rules or laws for introduction of evidence into enforcement or judicial proceedings.

(6) Physical, chemical, and microbiological analyses of ambient water quality and for facilities inspections shall be conducted by the use of analytical methods as specified in regulations published in Part 136 of Subchapter D of this Chapter, pursuant to Section 304(g) of the Act. Unless otherwise specifically required by the Regional Administrator, analyses of physical, chemical, biological, and microbiological parameters not identified in Part 136 of Subchapter D of this Chapter shall be conducted in accordance with generally acceptable methods such as those cited in the following references:

(a) *Standard Methods for the Examination of Water and Wastewater* (APHA).

(b) *Annual Book of Standards, Part 23, Water; Atmospheric Analysis* (ASTM).

(c) *Methods for Chemical Analysis of Water and Wastes* (USEPA).

(d) *Biological Field and Laboratory Methods for Measuring the Quality of Surface Waters and Effluents* (USEPA).

(e) *Recommended Methods for Water Data Acquisition* (OWDC, USDI).

(f) *Methods for Collection and Analysis of Water Samples of Dissolved Minerals and Gases* (USGS, USDI).

(g) *Methods for Collection and Analysis of Aquatic Biological and Microbiological Samples* (USGS, USDI).

(7) The Director of any State water pollution control agency or interstate agency wishing to use a method not cited in Part 136 of Subchapter D of this Chapter for preservation or analysis of parameters cited in said Part, shall submit an application to the Regional Administrator for approval to employ such alternative methods. Such applications shall include a technical description of the proposed alternative method together with the reason(s) for seeking to use a method other than according to Subparagraph (2) and/or (6) above. The Regional Administrator may require that the Director provide a technical evaluation of the proposed method, as deemed appropriate by the Regional Administrator, to supplement the application. To insure utilization of uniform measurement methodology on a nationwide basis, the Director of the EPA Methods Development and Quality Assurance Research Laboratory shall recommend alternative methods and procedures for measurement of physical, chemical, and biological characteristics for acceptance by the Regional Administrators. For the same purpose, the Regional Administrators shall forward copies of applications for alternative methods to the laboratory director for review and recommendation. Within 90 days of receipt by the Regional Administrator of an application for an alternative method, the Regional Administrator shall notify the State or Interstate Director of approval or rejection, or shall specify any additional information which is required to determine whether to approve the proposed method.

(8) All participating laboratories shall routinely utilize and document intralaboratory analytical quality control procedures, including a combination of techniques such as: spiked sample recovery, replicate sample analyses, and reference sample analyses in a manner mutually agreed upon by the Director and the Regional Administrator. The operation of such an intralaboratory analytical control program shall conform to practices recommended in the EPA manual *Handbook for Analytical Quality Control in Water and Wastewater Laboratories*, as revised.

The laboratories shall participate in and document interlaboratory testing programs, including sample splitting between State monitoring support laboratories and EPA laboratories as needed.

(9) The Director shall make all monitoring support laboratories, laboratory data records, and records indicating laboratory techniques and quality control procedures used, open to EPA review as required by the Regional Administrator.

Q. *Data Handling, Storage and Reporting.* Pollutant source data, water quality data, and related data shall be analyzed, correlated, and made available to EPA in a form, volume, and manner approved by the Regional Administrator in conformance with the requirements set forth in this Paragraph and in 40 CFR 35, Subpart B. Unless otherwise specified by the Regional Administrator, compliance monitoring data shall be made available to EPA within ninety days after it is acquired by the Director, intensive survey data shall be made available to EPA within ninety days after it is collected, each survey, and data from the Primary Monitoring Network and the Groundwater Monitoring Network shall be made available to EPA within ninety days after it is collected.

The Director shall utilize an information system capable of preparing, surveying, validating, and transmitting to EPA the water monitoring data collected by the State in accordance with these regulations. The data shall be made available in a format suitable for direct entry into the EPA water information system and shall specifically include the following:

(1) All data collected from stations particularly identified as intensive survey stations, primary monitoring stations, and groundwater monitoring stations described above, beginning with data collected in Fiscal Year 1975, including accurate latitude and longitude coordinates, station type codes, and other station descriptors for each station;

(2) Pertinent hydraulic and geometric data obtained in connection with intensive surveys and primary monitoring network activities;

(3) All data acquired by the Director in support of the requirements set forth in Paragraph K above;

(4) A listing each fiscal year of the stations to be monitored in the primary monitoring network in the following year, highlighting changes from the current year, and including for each station, descriptions of station location, station type, parameter coverage, and sampling frequencies;

(5) The inventory of groundwater monitoring stations;

(6) The groundwater pollution source inventory;

(7) The inventory of lakes required in accordance with Paragraph O above;

(8) The discharger inventories required by Subpart D of Part 130 of this Chapter;

(9) Other monitoring data and information as may be required by the Regional Administrator.

The Director may elect to participate in the EPA water information system to satisfy requirements stated above. Descriptions of this system are available from the Regional Administrator. If the Director does not elect to use the EPA system, he shall provide a description of his proposed alternative system and a plan to make the data available to EPA in a form compatible with the EPA information system.

R. *Annual Inventory and Input to State Strategy.* The State's monitoring program shall provide for collection, analysis, and evaluation of basic information required for the annual inventory reports required by Section 305(b) of the Act. The results of the monitoring activities described herein are intended to supply the minimum monitoring information required for such inventories except that monitoring in addition to that anticipated in program grant applications, already submitted for fiscal year 1975, shall not be required for the annual inventory report due in 1975. The monitoring information and annual inventories shall be used in developing and maintaining the State strategy required by regulations published in 40 CFR 130.60 pursuant to Section 303(e) of the Act and shall be reported each year in the Section 106 Program Submission in the manner prescribed in the annual guidance for State program development.

TABLE 1.—Biological monitoring

Community and parameter	Priority [1]	Collection and analysis method [2]	Sampling frequency [3]
Plankton:			
Counts and identification	1	Grab samples	Once each in spring, summer, and fall.
Chlorophyll a	2		
Biomass as ash-free weight	2		
Periphyton:			
Counts and identification	1	Artificial substrates	Minimally once annually during periods of peak periphyton population density and/or diversity.
Chlorophyll a	2		
Biomass as ash-free weight	2		
Macrophytes:			
Areal coverage	1	As circumstances prescribe.	Minimally once annually during periods of peak macrophyton population density and/or diversity.
Identification	1		
Biomass as ash-free weight	2		
Macro-invertebrate:			
Counts and identification	1	Artificial and natural substrates.	Once annually during periods of peak macro-invertebrate population density and/or diversity.
Biomass as ash-free weight	2		
Flesh tainting	2		
Toxic substances in tissue [4]	2		
Fish:			
Toxic substances in tissue [4]	1	Electrofishing or netting.	Once annually.
Counts and identification	2		
Biomass as wet weight	2		
Condition factor	2		
Flesh tainting	2		
Age and growth	2		

[1] Priority 1—Minimum program, 2—Add as soon as capability can be developed.
[2] See "Biological Field and Laboratory Methods for Measuring the Quality of Surface Water and Effluents."
[3] Keyed to dynamics of community.
[4] See "Analysis of Pesticide Residues in Human and Environmental Samples," USEPA, Perrine Primate Research Laboratories, Perrine, Fl. 33157 (1970), and "Pesticide Analytical Manual," USDHEW, FDA, Washington, D.C.

[FR Doc.74-19567 Filed 8-27-74;8:45 am]

VI.

OTHER REGULATIONS

VI. 1

FRIDAY, AUGUST 16, 1974

WASHINGTON, D.C.

Volume 39 ■ Number 160

PART II

federal register

ENVIRONMENTAL PROTECTION AGENCY

■

SMALL BUSINESS

Water Pollution Control Plans

250<

Title 40—Protection of Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

SUBCHAPTER A—GENERAL

[FRL 180-4]

PART 21—SMALL BUSINESS

Notice of Interim Rulemaking

Notice is hereby given that the Environmental Protection Agency intends to amend Subchapter A, Chapter 1, Title 40, CFR, to implement section 8 of the Federal Water Pollution Control Act Amendments of 1972 (Pub. L. 92-500).

Section 8 of Pub. L. 92-500 amended section 7 of the Small Business Act, 15 U.S.C. 636, to authorize loans to assist small business concerns in adding to or altering their equipment, facilities, or methods of operation in order to meet the water pollution control requirements established under the Federal Water Pollution Control Act. A prerequisite to receiving such a loan is a written statement issued by the Environmental Protection Agency or (if appropriate) the State, certifying that the additions, alterations, or methods of operation are "necessary and adequate" to comply with pollution control requirements established under the Act. These interim regulations describe the uniform rules for issuing such statements.

Small business concerns can be eligible for an SBA loan if the additions, alterations, or methods of operation necessary for pollution control result from their engaging in one or more of the following activities:

1. The business has a discharge requiring permitting under section 402 of the Act.

2. The business discharges into a publicly owned treatment works which requires pretreatment by the business.

3. The business plans to discharge into a municipal sewer system through the construction of a lateral or interceptor sewer.

4. The business is subject to the requirements of a State or areawide authority for controlling the disposal of pollutants that may affect groundwater.

5. The business requires a Corps of Engineers permit for dredged or fill material.

6. The business is subject to Coast Guard or State requirements regarding the standard of performance of marine sanitation devices controlling sewage from vessels.

7. The business is implementing a plan to control or prevent the discharge or spill of oil or other hazardous substances.

EPA's role under these guidelines is to determine the sufficiency of the proposed additions or alterations of equipment, facilities, or methods of operation in meeting water pollution control requirements. To receive the requisite statement from EPA, an applying small business concern need not demonstrate that all its activities or discharges will meet all applicable requirements under the Federal Water Pollution Control Act. It need only show that the additions, alterations, or methods of operation for which it is applying for SBA financing are necessary and adequate for compliance with one or more of such applicable requirements.

EPA will not determine the cost-effectiveness of the proposed additions or alterations nor will it assess whether or not other more efficient or technically superior alternatives exist. However, EPA will attempt to identify those components of the additions, alterations, or methods of operation which appear to be extraneous to the achievement of the degree of pollution abatement required by an applicable standard.

EPA will not issue statements to applicants for loans to be applied solely to the preparation or undertaking of plans to determine feasibility, or design for anticipated construction. However, this provision does not later preclude SBA financial assistance being utilized for design, plans, and specification work which are a part of the additions, alterations, or methods of operation deemed necessary and adequate by EPA. This exclusion results from the very nature of the activity conducted, in that no determination can be made of the adequacy or necessity of designs, plans, or specifications until they have been finished.

The review by EPA will be a technical review, with review of the applicant's eligibility as a small business and for the amount of financial assistance requested to be conducted by SBA.

The application for EPA-issued statements will not generally be subject to public notice or hearings but will be available for public inspection during the period of review by the Regional Administrator or during the period of appeal. However, information adequately identified to the Regional Administrator as being entitled to protection as a trade secret shall be treated confidentially by the Agency. The Regional Administrator shall, when necessary, provide public notice and conduct a public hearing regarding a specific application if he believes that the proposed addition, alteration, or method of operation may adversely affect an interest of the public.

Applicants are reminded that the penalties provided under 18 U.S.C. 1001 and 18 U.S.C. 286 can be applied against individuals who modify, change, or alter any statements as issued, or who submit an application containing false information.

Section 7 of the Small Business Act makes no attempt to apportion responsibilities between the States and EPA. However, provision is made for States, upon application to EPA and approval by EPA, to conduct a program for issuing statements under these regulations. Since many applications for additions, alterations, or methods of operation are designed to meet requirements issued and enforced by the States pursuant to programs under various sections of the Act, States are encouraged to accept the responsibilities for conducting such a program, and may use funds authorized under section 106 of the Act for this purpose.

Applicants will also be subject to separate regulations promulgated by the Small Business Administration with regard to their financial eligibility and which establish procedures concerning applications to SBA for loan assistance.

This regulation does not apply to requests for loans to assist small businesses in meeting a compliance requirement under the Clean Air Act as authorized by the Small Business Act, section 7(b)(5). A separate program and procedures will be established for these loans. It is expected that the Small Business Administration will coordinate directly with the individual State air pollution control agencies in this regard.

Questions have been raised whether the intent of section 8 can be fulfilled with a more simplified procedure than that set forth in these interim regulations. In particular, the Agency invites comments and suggestions as to the extent to which the Agency furnishing the statement (EPA or State) could rely upon certifications of adequacy furnished by independent consulting engineers. Following the receipt of any such comments and suggestions, the Agency intends to review the desirability of a more simplified administrative system for implementing Section 8 and consider appropriate modifications to these regulations.

Interested persons are invited to submit comments on these interim regulations to: Chief, Water Program Planning and Accomplishment Branch (AW-456); Office of Air and Water Programs; Environmental Protection Agency; East Tower-Room 815; 401 M Street SW., Washington, D.C. 20460. Comments received within 60 days from the date of publication of this notice in the FEDERAL REGISTER will be considered before the regulations are promulgated as final. All comments received will be available for public inspection during normal working hours at the above location.

In a proposed form, these regulations were reviewed by other Federal agencies and States. Comments were received from the Departments of Commerce and Interior, the Small Business Administration, and the State of Pennsylvania.

These regulations are being issued as interim regulations, with the customary requirement for public comment on proposed rulemaking suspended, because the Agency has determined that some small businesses are presently subject to permit conditions that involve their taking immediate steps to secure financial assistance to undertake the necessary facility modifications or construction.

The Agency does not wish to impede these small businesses from presently securing an advantageous form of financial assistance—small business loans—which could be a result of publishing these regulations as proposed rulemaking.

These regulations will become effective on August 16, 1974.

JOHN QUARLES,
Acting Administrator.

AUGUST 9, 1974

Sec.

21.1 Scope.
21.2 Definitions.
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21.10 Utilization of the statement.
21.11 Public participation.
21.12 State issued statements.

AUTHORITY: (15 U.S.C. 636), as amended by Pub. L. 92-500.

§ 21.1 Scope.

This part establishes procedures for the issuance by EPA of the statements, referred to in section 7(g) of the Small Business Act and section 8 of the Federal Water Pollution Control Act Amendments of 1972, to the effect that additions to or alterations in the equipment, facilities (including the construction of pretreatment facilities and interceptor sewers), or methods of operation of small business concerns are necessary and adequate to comply with requirements established under the Federal Water Pollution Control Act, 33 U.S.C. 1151, et seq.

§ 21.2 Definitions.

(a) "Small business concern" means a concern defined by section 2[3] of the Small Business Act, 15 U.S.C. 632, 13 CFR Part 121, and regulations of the Small Business Administration promulgated thereunder.

(b) For purposes of paragraph 7(g)(2) of the Small Business Act, "necessary and adequate" refers to additions, alterations, or methods of operation in the absence of which a small business concern could not comply with one or more applicable standards. This can be determined with reference to design specifications provided by manufactures, suppliers, or consulting engineers; including, without limitation, additions, alterations, or methods of operation the design specifications of which will provide a measure of treatment or abatement of pollution in excess of that required by an applicable standard.

(c) "Applicable Standard" means any requirement, not subject to an exception under § 21.6 of this part, relating to the quality of water containing or potentially containing pollutants, if such requirement is imposed by:

(1) The Act;

(2) EPA regulations promulgated thereunder;

(3) Regulations by any other Federal Agency promulgated thereunder;

(4) Any State standard or requirement as applicable under section 510 of the Act;

(5) Any requirements necessary to comply with an areawide management plan approved pursuant to section 208(b) of the Act;

(6) Any requirements necessary to comply with a facilities plan developed under section 201 of the Act (see 35 CFR Subpart E);

(7) Any State regulations or laws controlling the disposal of aqueous pollutants that may affect groundwater.

(d) "Regional Administrator" means the Regional Administrator of EPA for the region including the State in which the facility or method of operation is located, or his designee.

(e) "Act" means the Federal Water Pollution Control Act, 33 U.S.C. 1151, et. seq.

(f) "Pollutant" means dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water. For the purposes of this section, the term also means sewage from vessels within the meaning of section 312 of the Act.

(g) "Permit" means any permit issued by either EPA or a State under the authority of section 402 of the Act; or by the Corps of Engineers under section 404 of the Act.

(h) "State" means a State, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Trust Territory of the Pacific Islands. [Comment: As the SBA does not extend its programs to the Canal Zone, the listing of the Canal Zone as a State for the purposes of meeting a requirement imposed by sections 311 or 312 of the Act is not effective in this regulation.]

(i) "Statement" means a written approval by EPA, or if appropriate, a State, of the application.

(j) "Facility" means any building, structure, installation or vessel, or portion thereof.

(k) "Construction" means the erection, building, acquisition, alteration, remodeling, modification, improvement, or extension of any facility, provided that it does not mean preparation or undertaking of: Plans to determine feasibility; engineering, architectural, legal, fiscal, or economic investigations or studies; surveys, designs, plans, writings, drawings, specifications or procedures.

[Comment: This provision would not later preclude SBA financial assistance being utilized for any planning or design effort conducted previous to construction.]

(l) The term "additions and alterations" means the act of undertaking construction of any facility.

(m) The term "methods of operation" means the installation, emplacement, or introduction of materials, including those involved in construction, to achieve a process or procedure to control: Surface water pollution from non-point sources—that is, agricultural, silvicultural, mining, construction; ground or surface water pollution from well, subsurface, or surface disposal operations; activities resulting in salt water intrusion; or changes in the movement, flow, or circulation of navigable or ground waters.

(n) The term "vessel" means every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on the navigable waters of the United States other than a vessel owned or operated by the United States or a State or a political subdivision thereof, or a foreign nation; and is used for commercial purposes by a small business concern.

(o) "EPA" means the Environmental Protection Agency.

(p) "SBA" means the Small Business Administration.

(q) "Areawide agency" means an areawide management agency designated under section 208(c)(1) of the Act.

§ 21.3 Submission of applications.

(a) Applications for the statement described in § 21.5 of this part shall be made to the EPA Regional Office for the region covering the State in which the additions, alterations, or methods of operation covered by the application are located. A listing of EPA Regional Offices, with their mailing addresses, and setting forth the States within each region is as follows:

Region	Address	States
I	Regional Administrator, Region I, Environmental Protection Agency, John F. Kennedy Federal Bldg., Room 2303, Boston, Mass. 02203.	Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont.
II	Regional Administrator, Region II, Environmental Protection Agency, 26 Federal Plaza, Room 908, New York, N.Y. 10007.	New Jersey, New York, Virgin Islands, Puerto Rico.
III	Regional Administrator, Region III, Environmental Protection Agency, Curtis Bldg., Sixth and Walnut Sts., Philadelphia, Pa. 19106.	Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia.
IV	Regional Administrator, Region IV, Environmental Protection Agency, 1421 Peachtree St., NE., Atlanta, Ga. 30309.	Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee.
V	Regional Administrator, Region V, Environmental Protection Agency, 1 North Wacker Dr., Chicago, Ill. 60606.	Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin.
VI	Regional Administrator, Region VI, Environmental Protection Agency, 1600 Patterson St., suite 1600, Dallas, Tex. 75201.	Arkansas, Louisiana, New Mexico, Oklahoma, Texas.
VII	Regional Administrator, Region VII, Environmental Protection Agency, 1735 Baltimore Ave., Kansas City, Mo. 64108.	Iowa, Kansas, Missouri, Nebraska.
VIII	Regional Administrator, Region VIII, Environmental Protection Agency, 1860 Lincoln St., suite 900, Denver, Colo. 80203.	Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming.
IX	Regional Administrator, Region IX, Environmental Protection Agency, 100 California St., San Francisco, Calif. 94111.	Arizona, California, Hawaii, Nevada, Guam, American Samoa, Trust Territory of the Pacific Islands.
X	Regional Administrator, Region X, Environmental Protection Agency, 1200 Sixth Ave., Seattle, Wash. 98101.	Alaska, Idaho, Oregon, Washington.

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(b) An application described in paragraph (1) of § 21.3(c) may be submitted directly to the appropriate State, where a State has assumed responsibility for issuing the statement. Information on whether EPA has retained responsibility for certification or whether it has been assumed by the State may be obtained from either the appropriate Regional Administrator or the State Water Pollution Control Authority in which the facility is located.

(c) An application need be in no particular form, but it must be in writing and must include the following:

(1) Name of applicant (including business name, if different) and mailing address. Address of the affected facility or operation, if different, should also be included.

(2) Signature of the owner, partner, or principal executive officer requesting the statement.

(3) The Standard Industrial Classification number for the business for which an application is being submitted. Such SIC number shall be obtained from the Standard Industrial Classification Manual, 1972 edition. If the applicant does not know the SIC for the business, a brief description of the type of business activity being conducted should be provided.

(4) A description of the process or activity generating the pollution to be abated by the additions, alterations, or methods of operation covered by the application.

(5) A specific description of the additions, alterations, or methods of operation covered by the application. Where appropriate, such description will include a summary of the facility construction to be undertaken; a listing of the major equipment to be purchased or utilized in the operation of the facility; the purchase of any land or easements necessary to the operation of the facility; and any other items that the applicant deems pertinent. Any information that the applicant considers to be a trade secret shall be identified as such.

(6) A declaration of the requirement, or requirements, for compliance with which the alterations, additions, or methods of operation are claimed to be necessary and adequate.

(i) If the requirement results from a permit issued by EPA or a State under section 402 of the Act, the permit number shall be included.

(ii) If the requirement results from a permit issued by EPA or a State for a publicly-owned treatment works, the municipal permit number shall be included along with written declaration from the authorized agent for the publicly-owned treatment works that received the permit detailing the specific pretreatment requirements being placed upon the applicant.

(iii) If the requirement initiates from a plan to include the applicant's effluent in an existing municipal sewer system through the construction of laterel or interceptor sewers, a written declaration from the authorized agent for the publicly-owned treatment works shall be included noting that the sewer construction is consistent with the integrity of the system; will not result in the capacity of the publicly-owned treatment works being exceeded; and where applicable, is consistent with a facilities plan developed under section 201 of the Act (see 35 CFR 917).

(iv) If the requirement results from a State order, regulation, or other enforceable authority controlling pollution from a vessel as provided by section 312 (f)(3) of the Act, a written declaration from the authorized agent of the State specifying the control measures being required of the applicant shall be included.

(v) If the requirement is a result of a permit issued by the Corps of Engineers related to permits for dredged or fill material as provided by section 404 of the Act, a copy of the permit as issued shall be included.

(vi) If the requirement results from a standard of performance for control of sewage from vessels as promulgated by the Coast Guard under section 312(b) of the Act, the vessel registration number or documentation number shall be included.

(vii) If the requirement results from a plan to control or prevent the discharge or spill of pollutants as identified in section 311 of the Act, the title and date of that plan shall be included.

(viii) If the requirement is the result of an order by a State or an areawide management agency controlling the disposal of aqueous pollutants so as to protect groundwater, a copy of the order as issued shall be included.

(7) Additionally, if the applicant has received from a State Water Pollution Control Agency a permit issued by the State within the preceding two years, and if such permit was not issued under the authorities of section 402 of the Act, and where the permit directly relates to abatement of the discharge for which a statement is sought, a copy of that permit shall also be included.

[Comment: Some States under State permit programs, separate and distinct from the NPDES permit program under the Act, conduct an engineering review of the facilities or equipment that would be used to control pollution. The results of such a review would be materially helpful in determining the necessity and adequacy of any alterations or additions.]

(8) Any written information from a manufacturer, supplier or consulting engineer, or similar independent source, concerning the design capabilities of the additions or alterations covered by the application, including any warranties or certifications obtained from or provided by such sources which would bear upon these design or performance capabilities. The Regional Administrator may waive the requirement for this paragraph if it appears that there is no independent source for the information described herein; as, for example, when the applicant has designed and constructed the additions or alterations with in-house capability.

(9) An estimated schedule for the construction or implementation of the alterations, additions, or methods of operation.

(10) An estimated cost of the alterations, additions, or methods of operation, and where practicable, the individual costs of major elements of the construction to be undertaken.

(11) Information on previously received loan assistance under this section for the facility or method of operation, including a description and dates of the activity funded.

(d) A separate application must be submitted for every addition, alteration, or method of operation that is at a separate geographical location from the initial application.

[Comment: As an example, a chain has four dry cleaning establishments scattered through a community. A separate application would have to be filed for each.]

(e) No statement shall be approved for any application that has not included the information or declaration requirements imposed by paragraph (c)(6) of § 21.3.

(f) All applications are to be submitted in duplicate.

(g) All applications are subject to the provisions of 18 U.S.C. 1001 regarding prosecution for the making of false statements or the concealing of material facts.

§ 21.4 Review of application.

(a) The Regional Administrator will conduct a review of the application. This review will consist of a general assessment of the adequacy of the proposed alterations, additions, or methods of operation. The review will corroborate that the proposed alterations, additions, or methods of operation are required by an applicable standard. The review will identify and proposed alterations, additions, or methods of operation that are not required by an applicable standard, or that are extraneous to the achievement of an applicable standard.

(b) The assessment of adequacy will be conducted to ensure that the proposed additions, alterations, or methods of operation are sufficient to meet one or more applicable standards. The assessment will not generally examine whether other alternatives exist or would be more meritorious from a cost-effective, efficiency, or technological standpoint.

(c) An application which proposes additions, alterations, or methods of operation whose design, in anticipation of a future requirement, will achieve a level of performance above the requirements imposed by a presently applicable standard shall be reviewed and approved by EPA or a State without prejudice. The amount of financial assistance for such an application will be determined by SBA.

(d) The Regional Administrator shall retain one copy of the application and a summary of the action taken on it. Upon completion of his review, the Regional Administrator shall return the original application along with any other supporting documents or information provided to the applicant.

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§ 21.5 Issuance of statements.

(a) Upon application by a small business concern pursuant to § 21.3 the Regional Administrator will, if he finds that the additions, alterations, or methods of operation covered by the application are adequate and necessary to comply with an applicable standard, issue a written statement to the applicant to that effect, within 45 working days following receipt of the application, or within 45 working days following receipt of all information required to be submitted pursuant to § 21.3(c), whichever is later. Such a written statement shall be classified as a full approval. If an application is deficient in any respect, with regard to the specifications for submission listed in § 21.3(c), the Regional Administrator shall promptly, but in no event later than 30 working days following receipt of the application, notify the applicant of such deficiency.

(b)(1) If an application contains proposed alterations, additions, or methods of operation that are adequate and necessary to comply with an applicable standard but also contains proposed alterations, additions, or methods of operation that are not necessary to comply with an applicable standard, the Regional Administrator shall conditionally approve the application within the time limit specified in subsection (a), and shall also identify in the approval those alterations, additions, or methods of operation that he determines are not necessary.

(2) Conditional approvals as contained in a statement will satisfy the requirements for approval by EPA for those alterations, additions, or methods of operation determined to be necessary and adequate. Such conditional approvals may be submitted to SBA in satisfaction of the requirements of section 7(g)(2)(B) of the Small Business Act.

(3) Conditional approvals will not satisfy the requirements for approval by EPA for those alterations, additions, or methods of operation included in the application that are determined not to be necessary. Unnecessary alterations, additions, or methods of operation are those which are extraneous to the achievement of an applicable standard.

(4) Conditional approvals may be appealed to the Deputy Administrator by an applicant in accordance with the procedures identified in § 21.8.

(c) If the Regional Administrator determines that the additions, alterations, or methods of operation covered by an application are not necessary and adequate to comply with an applicable standard, he shall disapprove the application and shall so advise the applicant of such determination within the time limit specified in subsection (a), and shall state in writing the reasons for his determination.

(d) Any application shall be disapproved if the Regional Administrator determines that the proposed addition, alteration, or method of operation would result in the violation of any other requirement of this Act, or of any other Federal or State law or regulation with respect to the protection of the environment.

(e) An applicant need not demonstrate that its facility or method of operation will meet all applicable requirements established under the Act. The applicant need only demonstrate that the additions, alterations, or methods of operation for which financial assistance is being requested will comply with one or more of the applicable standards.

[Comment: As an example, a small business has two discharge pipes—one for process water, the other for cooling water. The application for loan assistance is to control pollution from the process water discharge. The applicant need not discuss any control measures being introduced to abate pollution from the cooling water if no loan assistance is being requested for that discharge.]

(f) An application should not include major alternative designs significantly differing in scope, concept, or capability. It is expected that the applicant at the time of submission will have selected the most appropriate or suitable design for the addition, alteration, or method of operation.

(g) EPA will not provide assistance in the form of engineering, design, planning or other technical services to any applicant in the preparation of his application.

§ 21.6 Exclusions.

(a) Statements shall not be issued for applications in the following areas:

(1) Local requirements. Applications for statements for additions, alterations, or methods of operation that result from requirements imposed by local or regional authorities, except for areawide management agencies designated and approved under section 208 of the Act, shall not be approved; except for those requirements resulting from the application of pretreatment requirements under section 307(b) of the Act; or those resulting from an approved project for facilities plans, and developed under section 201 of the Act. (See 35 CFR Subpart E.)

(2) Cost recovery and user charges. Applications for statements involving a request for financial assistance in meeting revenue and service charges imposed upon a small business by a municipality conforming to regulations governing a user charge or capital cost system under section 204(b)(2) of the Act (see 35 CFR 925–11 and 925–12) shall not be approved.

(3) New facility sewer construction. Applications for statements involving projects that involve the construction of a lateral, collection, or interceptor sewer, at a facility that was not in existence on October 18, 1972, shall not be approved. Applications for additions, alterations, or methods of operation for new facilities that do not involve sewer construction are not affected by this preclusion.

(4) Other non-water related pollution abatement additions, alterations, or methods of operation which are not integral to meeting the requirements of the Act, although they may be achieving the requirements of another Federal or State law or regulation.

[Comment: An example would be where stack emission controls were required on equipment that operated the water pollution control facility. This emission control equipment as an integral part of the water pollution control system would be approvable. However, emission control equipment for a general purpose incinerator that only incidentally burned sewage sludge would not be approvable.]

(5) Privately owned treatment facility service or user costs. Applications for statements involving financial assistance in meeting user cost or fee schedules related to participating in a privately owned treatment facility not under the ownership or control of the applicant shall not be approved.

(6) Operation and maintenance charges. Applications for statements containing a request for financial assistance in meeting the operations and maintenance costs of operating the applicant's additions, alterations, or methods of operation shall not be approved for any elements relating to such areas of cost.

(7) Evidence of financial responsibility. Applications for statements containing a request for financial assistance in meeting any requirements relating to evidence of financial responsibility as provided in section 311(p) of the Act shall not be approved.

§ 21.7 Reserved.

[Comment: Applications for a statement resulting from a requirement to control pollution from non-point sources as identified in section 304(e)(2)(A-F) of the Act and described in § 21.2(m) of this part will not presently be issued a statement under § 21.5 of this part. There is no requirement under the current Act that the Federal government control pollution from such sources, and the nature and scope of State or areawide management agency proposals or programs to control such sources cannot be determined at this time. As State plans for control of non-point sources being prepared under § 303(e) of the Act, and areawide plans being prepared under § 208 of the Act, will not be completed for several years, this section is being reserved pending a future determination on the eligibility of applications relating to non-point sources to receive a statement under this part.]

§ 21.8 Resubmission of application.

(a) A small business concern whose application is disapproved may submit an amended or corrected application to the Regional Administrator at any time. The applicant shall provide the date of any previous application.

§ 21.9 Appeals.

(a) An applicant aggrieved by a determination of a Regional Administrator under § 21.5 may appeal in writing to the Deputy Administrator of the Environmental Protection Agency, within 30 days of the date of the determination from which an appeal is taken; provided that the Deputy Administrator may, on good cause shown, accept an appeal at a later time.

(b) The applicant in requesting such an appeal shall submit to the Deputy

Administrator a copy of the complete application as reviewed by the Regional Administrator.

(c) The applicant should also provide information as to why it believes the determination made by the Regional Administrator to be in error.

(d) The Deputy Administrator shall act upon such appeal within 60 days of receipt of any complete application for a review of the determination.

§ 21.10 Utilization of the statement.

(a) Statements issued by the Regional Administrator will be mailed to the small business applicant and to the Small Business Administration. It is the responsibility of the applicant to also forward the statement to SBA as part of the application for a loan.

(b) Any statement or determination issued under § 21.5 shall not be altered, modified, changed, or destroyed by any applicant in the course of providing such statement to SBA. To do so can result in the revocation of any approval contained in the statement and subject the applicant to the penalties provided in 18 U.S.C. 1001.

(c) If an application for which a statement is issued under § 21.5 is substantively changed in scope, concept, design, or capability prior to the approval by SBA of the financial assistance requested, the statement as issued shall be revoked. The applicant must resubmit a revised application under § 21.3 and a new review must be conducted. Failure to meet the requirements of this subparagraph could subject the applicant to the penalties specified in 18 U.S.C. 1001 and 18 U.S.C. 286. A substantive change is one which materially affects the performance or capability of the proposed addition, alteration, or method of operation.

(d) An agency, Regional Administrator, or State issuing a statement under § 21.5 shall retain a complete copy of the application for a period of five years after the date of issuance of the statement. The application shall be made available upon request for inspection or use at any time by any agency of the Federal Government.

(e) No statement as issued shall be construed as modifying, suspending, abrogating, or changing the terms, conditions, limitations, or schedules of compliance imposed by any applicable standard, permit, or other requirement authorized under this Act. The pendency of an application for a statement or for financial assistance as under this Section shall not be construed as a waiver or suspension of the compliance requirements of any applicable standard or permit.

(f) No statement as issued and reviewed shall be construed as a waiver to the applicants fulfilling the requirements of any State or local law, statute, ordinance, or code (including building, health, or zoning codes).

(g) An amended application need not be submitted if the facility, property, or operation for which the statement is issued is sold, leased, rented, or transferred by the applicant to another party prior to approval by SBA of the financial assistance, provided that there is or will be no substantive change in the scope, concept, design, capability, or conduct of the facility or operation.

[Comment: However, eligibility for financial assistance would be reexamined by SBA with regard to any such sale, lease, rental or transfer.]

(h) The Regional Administrator may include in any statement a date of expiration, after which date the approval by the Regional Administrator contained in the statement shall no longer apply. The date of expiration shall not become effective if the applicant has submitted the statement to the SBA, prior to the date of expiration, as part of the application for financial assistance.

§ 21.11 Public participation.

(a) Applications shall not generally be subject to public notice, public comment, or public hearings. Applications during the period of review as stated in § 21.5, or during the period of appeal as provided in § 21.8, shall be available for public inspection. Approved applications as provided in § 21.10(d) shall be available for public inspection at all times during the five year period.

(b) The Regional Administrator, if he believes that the addition, alteration, or method of operation may adversely and significantly affect an interest of the public, shall provide for a public notice and/or public hearing on the application. The public notice and/or public hearing shall be conducted in accordance with the procedures specified for a permit under 40 CFR 125.32 and 40 CFR 125.34(b).

(c) Where the applicant is able to demonstrate to the satisfaction of the Regional Administrator that disclosure of certain information or parts thereof as provided in § 21.3(c)(5) would result in the divulging of methods or processes entitled to protection as trade secrets, the Regional Administrator shall treat the information or the particular part as confidential in accordance with the purposes of section 1905 of Title 18 of the United States Code and not release it to any unauthorized person. *Provided, however*, That if access to such information is subsequently requested by any person, there will be compliance with the procedures specified in 40 CFR 2. Such information may be disclosed to other officers, employees, or authorized representatives of the United States concerned with carrying out the Act or when relevant in any proceeding under the Act.

§ 21.12 State issued statements.

(a) Any State after the effective date of these regulations may submit to the Regional Administrator for his approval an application to conduct a program for issuing statements under this section.

(1) A State submission shall specify the organizational, legal, financial, and administrative resources and procedures that it believes will enable it to conduct the program.

(2) The State program shall constitute an equivalent effort to that required of EPA under this section.

(3) The State organization responsible for conducting the program should be the State water pollution control agency, as defined in section 502 of the Act.

(4) The State submission shall propose a procedure for adjudicating applicant appeals as provided under § 21.9.

(5) The State submission shall identify any existing or potential conflicts of interest on the part of any personnel who will or may review or approve applications.

(i) A conflict of interest shall exist where the reviewing official is the spouse of or dependent (as defined in the Tax Code, 26 U.S.C. 152) of an owner, partner, or principal officer of the small business, or where he has or is receiving from the small business concern applicant 10 percent of gross personal income for a calendar year, except that it shall mean 50 percent gross personal income for a calendar year if the recipient is over 60 years of age and is receiving such portion pursuant to retirement, pension, or similar arrangements.

(ii) If the State is unable to provide alternative parties to review or approve any application subject to conflict of interest, the Regional Administrator shall review and approve the application.

(b) The Regional Administrator, within 60 days after such application, shall approve any State program that conforms to the requirements of this Section. Any such approval shall be after sufficient notice has been provided to the Regional Director of SBA.

(c) If the Regional Administrator disapproves the application, he shall notify the State, in writing, of any deficiency in its application. A State may resubmit an amended application at any later time.

(d) Upon approval of a State submission, EPA will suspend all review of applications and issuance of statements for small businesses in that State, pending transferral. Provided, however, that in the event of a State conflict of interest as identified in § 21.12(a)(4) supra, EPA shall review the application and issue the statement.

(e) Any applications shall, if received by an EPA Regional Office, be forwarded promptly to the appropriate State for action pursuant to section 7(g)(2) of the Small Business Act and these regulations.

(f)(1) EPA will generally not review or approve individual statements issued by a State. However, SBA, upon receipt and review of a State approved statement may request the Regional Administrator of EPA to review the statement. The Regional Administrator, upon such request can further approve or disapprove the State issued statement, in accordance with the requirements of § 21.5 of this part.

(2) The Regional Administrator will periodically review State program performance. In the event of State program deficiencies the Regional Administrator will notify the State of such deficiencies.

(3) During that period that any State's program is classified as deficient, statements issued by a State shall also be sent to the Regional Administrator for review. The Regional Administrator shall notify the State, the applicant, and the SBA of any determination subsequently made, in accordance with § 21.5 of this part, on any such statement.

(i) If within 60 days after notice of such deficiencies has been provided, the State has not taken corrective efforts, and if the deficiencies significantly affect the conduct of the program, the Regional Administrator, after sufficient notice has been provided to the Regional Director of SBA, shall withdraw the approval of the State program.

(ii) Any State whose program is withdrawn and whose deficiencies have been corrected may later reapply as provided in § 21.12(a).

(g) Funds appropriated under section 106 of the Act may be utilized by a State agency authorized to receive such funds in conducting this program.

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VI. 2

federal register

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PART I

ENVIRONMENTAL PROTECTION AGENCY
Rules

Freedom of Information..... 10460

Title 40—Protection of Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

SUBCHAPTER A—GENERAL

[FRL 336-6]

PART 2—PUBLIC INFORMATION

Interim regulations are hereby promulgated which amend Chapter I of Title 40 of the Code of Federal Regulations by revising Part 2 thereof to comply with the requirements of the recent amendments (Pub. L. 93-502, November 21, 1974) to 5 U.S.C. 552, commonly called the Freedom of Information Act. These regulations establish procedures to be followed by the public in making requests for records and by the Environmental Protection Agency (EPA) in handling those requests.

The regulations establish a new subpart A containing the general rules and procedures applicable to all requests for records. A separate subpart B will shortly be issued under proposed rulemaking procedures; it will propose special rules and procedures for the handling of requests for information pertaining to businesses which may be entitled to confidential treatment for reasons of trade secrecy or commercial or financial confidentiality.

For the most part, subpart A contains self-explanatory statements of general EPA policy concerning the availability of information, procedures for making requests for records, a description of EPA procedures for responding to requests and issuing initial determinations, the method for filing an administrative appeal from an initial determination

denying a request, the EPA appeal decision procedure, and provisions concerning payment for search and duplication costs involved in responding to requests.

The recent amendments to 5 U.S.C. 552 provide that within 10 working days from an agency's receipt of a request for records, an initial determination in response to the request shall be issued. The regulation provides in § 2.110 that this 10-day period will commence on the date that the request is received by a Headquarters or regional Freedom of Information Office. Requests addressed to such an office will be received by that office promptly after the EPA mailroom physically receives a request. Requests addressed to other offices may experience delays due to the need for rerouting the request; requestors are therefore urged to submit their requests to the Freedom of Information Offices at the addresses stated in the regulation.

The regulation also provides that in certain cases the running of the 10-day period will be suspended while additional information or payment assurances are obtained from the requestor. EPA does not have any intention of using the time suspension procedures as a means to avoid or delay response to a request, but does not believe that the 10-day period should be allowed to lapse while EPA waits for the requestor to furnish reasonable identification of requested records or to make arrangements for payment of costs which will be incurred in processing the request.

Section 1 120 *Payment* was published in the FEDERAL REGISTER on January 24, 1975, as proposed rulemaking. All public comments were considered.

It is EPA's intention to repromulgate these regulations after a period of experience and after the receipt of comments from interested parties. Interested parties are encouraged to submit written comments, views, or data concerning the regulations promulgated hereby to the Director, Management and Organization Division PM-213, U.S. Environmental Protection Agency, Washington, D.C., 20460. All such submissions received on or before May 20, 1975, will be considered prior to the promulgation of a final version of these regulations. Copies of all comments will be available for public inspection in Room 206, Waterside Mall, West Tower, 401 M Street SW., Washington, D.C., between the hours of 8 a.m. and 4:30 p.m. on Government workdays.

The necessity that these regulations be known to the public and that the Agency's procedures conform to the amendments to 5 U.S.C. 552 by February 19, 1975, the effective date of those amendments, leads the Agency to conclude that it would be impracticable and contrary to the public interest to allow a period for receipt of comments from the public prior to promulgation of these regulations in final form, or to postpone their effective date until 30 days after their promulgation.

Effective date. These regulations are effective on the date of signature.

It is therefore proposed to amend part 2 of Chapter I of Title 40, Code of Federal Regulations, in the manner set forth below.

Dated February 27, 1975.

RUSSELL E. TRAIN,
Administrator.

Part 2 of Chapter I of Title 40 is revised to read as follows:

Subpart A—Interim Regulations Concerning Requests for Information

Sec.
2.100 Definitions.
2.101 Policy on disclosure of EPA records.
2.102 [Reserved]
2.103 Partial disclosure of records.
2.104 Request for existing records.
2.105 Creation of new records.
2.106 [Reserved]
2.107 Where requests for agency records shall be filed.
2.108 Form of request.
2.109 Requests which do not reasonably describe records sought.
2.110 Initial action upon receipt of a request.
2.111 Action by office responsible for maintaining requested records.
2.112 Time allowed for issuance of initial determination.
2.113 Initial denials of requests.
2.114 Appeals from initial denials, manner of making.
2.115 Appeal determinations; by whom made.
2.116 Contents of determination denying appeal.
2.117 Time allowed for issuance of appeal determination.
2.118 Exemption categories.
2.119 Discretionary release of exempt documents.
2.120 Payment.
2.121 Preparation of annual report.

Subpart B—[Reserved]

AUTHORITY: 5 U.S.C. 552, 5 U.S.C. 553.

§ 2.100 Definitions.

For the purposes of this part:

(a) "EPA" means the United States Environmental Protection Agency.

(b) "Request" means a request for the release of records under 5 U.S.C. 552.

(c) "Requestor" means any person who has submitted a request to EPA.

§ 2.101 Policy on disclosure of EPA records.

(a) EPA will make the fullest possible disclosure of records to the public, consistent with the rights of individuals to privacy, the rights of persons in trade secrets and other information entitled to confidential treatment, and the need for EPA to promote frank internal policy deliberations and to pursue its official activities without undue disruption.

(b) All EPA records shall be available to the public unless they are specifically exempt under this part.

(c) All nonexempt records of EPA shall be made available for public disclosure upon request regardless of whether any justification or need for such records has been shown.

§ 2.102 [Reserved]

§ 2.103 Partial disclosure of records.

If a record contains both disclosable and nondisclosable information, the nondisclosable information will be deleted and the disclosable information will be disclosed unless the disclosable portions cannot be reasonably segregated from the other portions in a manner which will allow meaningful information to be disclosed.

§ 2.104 Request for existing records.

(a) Any written request to EPA for existing records shall be deemed to be a request for records pursuant to the Freedom of Information Act, 5 U.S.C. 552, whether or not that statute is mentioned in the request, and shall be governed by the provisions of this Part.

(b) All existing EPA records are subject to routine destruction according to standard record retention schedules.

(c) Any written request to EPA for existing records prepared by EPA for routine public distribution, e.g., pamphlets, copies of speeches, press releases, and educational materials, shall be honored. No individual determination under § 2.111 is necessary in such cases, since preparation of the records for routine public distribution itself constitutes a determination that the records are available to the public. Copies shall be furnished with reasonable promptness in response to the request.

§ 2.105 Creation of new records.

The Freedom of Information Act and the provisions of this part apply only to existing records; they do not require the creation of new records.

§ 2.106 [Reserved]

§ 2.107 Where requests for agency records shall be filed.

A request for records may be filed with the EPA Freedom of Information Officer, A-101, 401 M Street, SW., Washington, D.C. 20460. Should the requestor have reason to believe that the records sought may be located in EPA regional offices, he should transmit his request to the appropriate regional Freedom of Information Office indicated below:

(a) *Region I.* (Massachusetts, Connecticut, Maine, New Hampshire, Rhode Island, Vermont):

U.S. Environmental Protection Agency
Freedom of Information Officer
Room 2303
John F. Kennedy Federal Building
Boston, Mass. 02203

(b) *Region II.* (New Jersey, New York, Puerto Rico, Virgin Islands):

U.S. Environmental Protection Agency
Freedom of Information Officer
Room 1005
26 Federal Plaza
New York, NY 10007

(c) *Region III.* (Delaware, Maryland, Pennsylvania, Virginia, West Virginia, District of Columbia):

U.S. Environmental Protection Agency
Freedom of Information Officer
Curtis Building
Sixth and Walnut Streets
Philadelphia, PA 19106

(d) *Region IV.* (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee):

U.S. Environmental Protection Agency
Freedom of Information Officer
Suite 804
1421 Peachtree Street, N.E.
Atlanta, GA 30309

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(e) *Region V.* (Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin):

U.S. Environmental Protection Agency
Freedom of Information Officer
230 Dearborn Street
Chicago, IL 60604

(f) *Region VI.* (Arkansas, Louisiana, New Mexico, Oklahoma, Texas):

U.S. Environmental Protection Agency
Freedom of Information Officer
Suite 1100
1600 Patterson Street
Dallas, TX 75201

(g) *Region VII.* (Iowa, Kansas, Missouri, Nebraska):

U.S. Environmental Protection Agency
Freedom of Information Officer
1735 Baltimore Avenue
Kansas City, MO 64108

(h) *Region VIII.* (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming):

U.S. Environmental Protection Agency
Freedom of Information Officer
Suite 900
1860 Lincoln Street
Denver, CO 80203

(i) *Region IX.* (Arizona, California, Hawaii, Nevada, American Samoa, Guam, Trust Territories of Pacific Islands, Wake Island):

U.S. Environmental Protection Agency
Freedom of Information Officer
100 California Street
San Francisco, CA 94111

(j) *Region X.* (Alaska, Idaho, Oregon, Washington):

U.S. Environmental Protection Agency
Freedom of Information Officer
1200 Sixth Avenue
Seattle, WA 98101

§ 2.108 Form of request.

A request for EPA records shall be in writing, shall reasonably describe the records sought in a way that will permit their identification and location by EPA, but otherwise need not be in any particular form. Where the requestor anticipates that search and duplication fees involved in the request might be substantial, he may wish to consider a prepayment, or include a commitment to pay all fees that may be involved or all fees up to a stated limit (see § 2.120). Placing the term "Freedom of Information Act Request" on the envelope and letter may well result in a speedier response.

§ 2.109 Requests which do not reasonably describe records sought.

(a) If the description of the records sought in the request is not a reasonable description sufficient to allow EPA to identify and locate the requested records, EPA will notify the requestor (by telephone when practicable) that the request cannot be further processed until additional information is furnished.

(b) EPA will make every reasonable effort to assist in the identification and description of records sought, and to assist the requestor in formulating his request. If a request is described in general terms (e.g., all records having to do with a certain area), the EPA office should attempt to communicate with the requestor (by telephone when practicable) with a view toward lessening both the administrative burden of processing a broad request and minimizing the fees payable by the requestor. Such attempts will not be used as a means to discourage requests, but rather as a means to help identify with more specificity the records actually sought.

§ 2.110 Initial action upon receipt of a request.

(a) *Requests received by the Freedom of Information Offices.* Each request received by a Freedom of Information Office, whether at EPA Headquarters or at an EPA region, shall be promptly stamped with the date of receipt by that office and assigned a Request Identification Number. The Freedom of Information Office shall promptly forward the request to the EPA office(s) believed to be responsible for maintaining the requested records, retaining a copy of the request. If a request is received by a Freedom of Information Office at an EPA region and the requested records (or some of them) are not maintained by that EPA region, the regional Freedom of Information Office shall promptly furnish a copy of the request to the Headquarters Freedom of Information Office.

(b) *Requests received by EPA offices other than Freedom of Information Offices.* If any request is received by any EPA office other than a Freedom of Information Office, a copy of the request shall be forwarded immediately to the Headquarters Freedom of Information Office (or, if the receiving office is part of an EPA region, to the regional Freedom of Information Office).

(c) *Method of forwarding requests.* Requests shall be forwarded under paragraphs (a) and (b) of this section by electronic means (facsimile machine, telephone, etc.).

§ 2.111 Action by office responsible for maintaining requested records.

(a) Whenever an EPA office becomes aware that it has been assigned the responsibility of responding to a request, or whenever such an office becomes aware that EPA has received a request for records which that office maintains or for which that office has responsibility, the office shall:

(1) Locate the records as promptly as possible, or determine that the records are not known to exist, or that they are located at another EPA office, or that they are held by another Federal agency and not by EPA;

(2) Determine which of the records (or portions of records) held by the office may not legally be released, and why;

(3) Determine whether disclosure will be made of requested records which are exempt from mandatory disclosure but which are not required by law or this part to be withheld (see §§ 2.118–2.119), and the reasons for withholding any such records;

(4) Issue an initial determination within the allowed period (see § 2.112), specifying which requested records will be withheld and which will be released (determinations to withhold requested records shall comply with § 2.113).

(b) If any requested records located under paragraph (a) of this section contain business information which is covered by a business confidentiality claim or is the type of information for which business sometimes requests confidential treatment, or is or may be required by law to be held in confidence for reasons of business confidentiality, the EPA office in possession of such records shall comply with applicable provisions of subpart B of this Part.

(c) Whenever an EPA office learns that some or all of the requested records are not in that office's possession but are or may be in the possession of some other EPA office or some other Federal agency, that office shall immediately so inform the Headquarters or regional Freedom of Information Office which is monitoring the request.

(d) If at any time it appears to an EPA office that performance of further search work would cause fees to be incurred in excess of those which the requestor has paid or agreed to pay (or $25.00 if no fee has been agreed upon), action shall be taken to obtain or assure payment (see § 2.120), to assist in the reformulation of the request (see § 2.109), or both.

§ 2.112 Time allowed for issuance of initial determination.

(a) Except as otherwise provided in this section, not later than the tenth working day after the date of receipt by a Freedom of Information Office of a request for records, the EPA office responsible for responding to the request shall issue a written determination to the requestor stating which of the requested records will, and which will not, be released, and the reason for any denial of a request. (A written determination is not necessary if within that 10-day period all requested records are actually furnished to the requestor.)

(b) The period of 10 working days shall be measured from the date the request is first received and logged in by the Headquarters or regional Freedom of Information Office.

(c) There shall be excluded from the period of 10 working days (or any extension thereof) any time which elapses between the time that a requestor is notified by EPA that his request does not reasonably identify the records sought and the time that the requestor furnishes a reasonable identification (see § 2.109).

(d) There shall be excluded from the period of 10 working days (or any extension thereof) any time which elapses between the time that a requestor is notified by EPA that processing his request will generate chargeable fees in excess of $25.00 (or any higher dollar limit he has established as acceptable), and the time that the requestor makes suitable arrangements for payment of such charges (see § 2.120).

(e) The EPA office taking action under §2.111, after notifying the appropriate

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Freedom of Information Office, may extend the basic 10-day period established under paragraph (a) of this section by a period not to exceed 10 additional working days, by furnishing written notice to the requestor within the basic 10-day period stating the reasons for such extension and the date by which the office expects to be able to issue a determination. The period may be so extended only when absolutely necessary, only for the period required, and only when one or more of the following unusual circumstances require the extension:

(1) There is a need to search for and collect the requested records from field facilities or other establishments that are separate from the office processing the request;

(2) There is a need to search for, collect, and appropriately examine a voluminous amount of separate and distinct records which are demanded in a single request; or

(3) There is a need for consultation, which shall be conducted with all practicable speed, with another agency having a substantial interest in the determination of the request or among two or more components of EPA.

(c) Failure of EPA to issue a determination within the 10-day period or any authorized extension shall constitute final agency action which authorizes the requestor to commence an action in an appropriate Federal district court to obtain the records.

§ 2.113 Initial denials of requests.

(a) An initial denial of a request may be issued only for the following reasons:

(1) The record requested is not known to exist;

(2) The record is not in EPA's possession;

(3) The record has been published in the FEDERAL REGISTER or is otherwise published and available for sale.

(4) A statutory provision, provision of this part, or court order requires that the information not be disclosed;

(5) The record is exempt from mandatory disclosure under 5 U.S.C. 552(b) and EPA has decided as a matter of discretion not to release it;

(6) Subpart B of this part requires initial denial because a third person must be consulted in connection with a business confidentiality claim; or

(7) The record is believed to exist in EPA's possession but has not yet been located (see paragraph (h) of this section).

(b) Initial denials of requests may be issued or ordered by those EPA officers or employees occupying positions to which such authority has been delegated or redelegated.

(c) Initial determinations should normally be made by the office which is in possession of, or has responsibility for maintaining, the requested records, and only in unusual cases should it be necessary to refer the matter to higher authorities for issuance of the determination. Initial determinations to deny requests may be issued only by an officer or employee who exercises supervisory authority over the EPA office which possesses or has responsibility for maintaining the requested records.

(d) Each initial determination to deny a request shall be written, signed, and dated, and shall contain a reference to the Request Identification Number.

(e) If the determination to deny a request was directed to be issued by some EPA officer or employee other than the person signing the determination letter, that other person's identity and position shall be stated in the determination letter. If an EPA regulation (e.g., § 2.204) requires that an initial denial determination be issued upon the finding of certain facts, reference shall be made to the regulation and the determination letter shall state the name of the person who made the fact finding.

(f) Each initial determination which denies a request in whole or part shall state that the requestor may appeal the initial denial by mailing or personally delivering an appeal in writing to the address stated in § 2.114 within 30 days of receipt of the determination or within 30 days of the date the requestor last received any records in response to the request, whichever date is later.

(g) An initial determination shall be deemed to be issued at the time the determination letter is placed in EPA mailing channels for first class mailing to the requestor, is delivered to the U.S. Postal Service for mailing, or is personally delivered to the requestor, whichever first occurs.

(h) When a request must be denied because the record has not yet been located (although it is believed to exist in EPA's possession), the EPA office responsible for maintaining the record shall continue to search diligently until it is located or it appears that the record does not exist or is not in EPA's possession, and shall periodically inform the requestor of the office's progress.

§ 2.114 Appeals from initial denials; manner of making.

(a) Any person whose request has been denied in whole or in part by an initial determination may appeal that denial by addressing a written appeal to the Freedom of Information Officer (A-101), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460.

(b) Any appeal shall be mailed no later than 30 calendar days after the date the requestor received the initial determination from which the appeal is taken, or 30 calendar days after the date the requestor last received any documents in response to the request, whichever is later.

(c) The appeal letter shall contain a reference to the date of the initial determination, the name and address of the person who issued the denial letter. The appeal letter shall also indicate whether any of the documents to which access was denied are not the subject of appeal.

§ 2.115 Appeal determinations; by whom made.

(a) The General Counsel shall make one of the following legal determinations in connection with every appeal of an initial determination from the initial denial of a request for an existing record in EPA's possession:

(1) The record must be released;

(2) The record must not be released, because a statute or a provision of this part so requires; or

(3) The record is exempt from mandatory disclosure but may be released as a matter of Agency discretion.

(b) Whenever the General Counsel has determined under paragraph (a) of this section that a record is exempt from mandatory disclosure but may legally be disclosed, the matter shall be referred to the Director of the EPA Office of Public Affairs. If the Director of the EPA Office of Public Affairs determines that the record shall not be disclosed, a determination denying the appeal shall be issued by the General Counsel. If the Director of the EPA Office of Public Affairs determines that the record should be disclosed, the record shall be disclosed unless the Administrator (upon a review of the matter requested by the appropriate Assistant Administrator, Regional Administrator, or the Director of a Headquarters Staff Office) determines that the record shall not be disclosed, in which case the General Counsel shall issue a determination denying the appeal.

(c) The General Counsel may delegate his duties under paragraph (a) of this section to a Regional Counsel, or to any other attorney employed on a full-time basis by EPA, in connection with any category of appeals or any individual appeal. No redelegation of such duties is authorized.

§ 2.116 Contents of determination denying appeal.

A determination denying an appeal from an initial denial shall be in writing shall state which of the exemptions in 5 U.S.C. 552(b) are felt to apply to each requested existing record, and shall state briefly the reason(s) for denial of the request. A denial determination shall also state the name and position of each EPA officer or employee who determined or ordered that the appeal be denied. Such a determination shall further state that the person whose request was denied may obtain judicial review of the denial by complaint filed with the district court of the United States in the district in which the complainant resides, or in which the Agency records are situated, or in the District of Columbia, pursuant to 5 U.S.C. 552(a)(4).

§ 2.117 Time allowed for issuance of appeal determination.

(a) Except as otherwise provided in this section, not later than the twentieth working day after the date of receipt by the Freedom of Information Officer at EPA Headquarters of an appeal from an initial denial of a request for records, the General Counsel shall issue a written determination stating which of the requested records (as to which an appeal was made) shall be disclosed and which shall not be disclosed.

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(b) The period of 20 working days shall be measured from the date an appeal, in accordance with § 2.114, is first received by the Freedom of Information Officer at EPA Headquarters, except as otherwise provided in § 2.205.

(c) The Office of General Counsel, after notifying the Freedom of Information Officer at EPA Headquarters, may extend the basic 20-day period established under paragraph (a) of this section by a period not to exceed 10 additional working days, by furnishing written notice to the requestor within the basic 20-day period stating the reasons for such extension and the date by which the office expects to be able to issue a determination. The period may be so extended only when absolutely necessary, only for the period required, and only when one or more of the following unusual circumstances require the extension:

(1) There is a need to search for and collect the requested records from field facilities or other establishments that are separate from the office processing the request;

(2) There is a need to search for, collect, and appropriately examine a voluminous amount of separate and distinct records which are demanded in a single request; or

(3) There is a need for consultation, which shall be conducted with all practicable speed, with another agency having a substantial interest in the determination of the request or among two or more components of EPA.

(d) No extension of the 20-day period shall be issued under subsection (c) of this section which would cause the total of all such extensions and of any extensions issued under § 2.112(e) to exceed 10 working days.

§ 2.118 Exemption categories.

(a) 5 U.S.C. 552(b) establishes nine exclusive categories of matters which are exempt from the mandatory disclosure requirements of 5 U.S.C. 552(a). No request under 5 U.S.C. 552 for an existing, located record in EPA's possession shall be denied by any EPA office or employee unless the record contains (or its disclosure would reveal) matters that are—

(1) Specifically authorized under criteria established by an Executive Order to be kept secret in the interest of national defense or foreign policy and are in fact properly classified pursuant to such Executive Order;

(2) Related solely to the internal personnel rules and practices of an agency;

(3) Specifically exempted from disclosure by statute;

(4) Trade secrets and commercial or financial information obtained from a person and privileged or confidential;

(5) Interagency or intra-agency memorandums or letters which would not be available by law to a party other than an agency in litigation with the agency;

(6) Personnel and medical files and similar files the disclosure of which would constitute a clearly unwarranted invasion of personal privacy;

(7) Investigatory records compiled for law enforcement purposes, but only to the extent that the production of such records would: (i) Interfere with enforcement proceedings; (ii) deprive a person of a right to a fair trial or an impartial adjudication; (iii) constitute an unwarranted invasion of personal privacy; (iv) disclose the identity of a confidential source and, in the case of a record compiled by a criminal law enforcement authority in the course of a criminal investigation, or by an agency conducting a lawful national security intelligence investigation, confidential information furnished only by the confidential source; (v) disclose investigative techniques and procedures; or (vi) endanger the life or physical safety of law enforcement personnel.

(8) Contained in or related to examination operating, or condition reports prepared by, on behalf of, or for the use of an agency responsible for the regulation or supervision of financial institutions; or

(9) Geological and geophysical information and data, including maps, concerning wells.

(b) The fact that the applicability of an exemption permits nondisclosure of a requested record (or portion thereof) does not necessarily mean that the record must or should be withheld. Where the rights of third parties other than Federal agencies would not be prejudiced, disclosure of records in response to a request is encouraged unless there is an important reason for nondisclosure.

§ 2.119 Discretionary release of exempt documents.

(a) EPA may, in its discretion, release requested records despite the applicability of the exemptions listed in paragraphs (2), (5), (7), (8), or (9) of § 2.118(a).

(b) As a matter of policy, EPA will not release a requested record if EPA determines that one or more of the exemptions listed in paragraphs (1), (3), (4), or (6) of § 2.118(a) apply to the record, except when ordered to do so by a Federal court or in exceptional circumstances under appropriate restrictions with the approval of the Office of General Counsel or a Regional Counsel.

§ 2.120 Payment.

(a) *Fee Schedule.* Fees will be charged for copies of records which are furnished to a person under this part and for time spent in locating and reproducing them in accordance with the fee schedule below. No fee will be charged for periods of less than one-half hour spent in connection with a search for records or computer programming.

Record search time (per half hour)	$3.50
In-house computer programming time (per half hour)	4.50
Reproduction of documents (per page)	.20

If the information requested exists as a computer record and a printout or tape is a means by which that information may be made available, the fee will be the actual direct cost of the computer system time added to any applicable search, in-house programming, reproduction, or contract programming costs.

(b) *Prepayment.* In the event pending requests under this part from the same requesting party would require the payment of fees in excess of $25.00, such records will not be searched for or made available, nor copies or such records furnished unless the requesting party first pays, or makes acceptable arrangements to pay, the total amount due; or if not ascertainable exactly, the approximate amount that would become due upon the completion of EPA's search and/or copying activities, as determined by the office responding to the request. All payments must be in the form of check or money order made payable to the U.S. Environmental Protection Agency and delivered to the Freedom of Information Officer at EPA Headquarters or at the appropriate regional office. In the event an advance payment hereunder shall differ from the amount of the fees actually due, an appropriate adjustment will be made at the time the negative determination is issued, the copies requested are delivered, or the records are made available.

(c) *Waiver.* EPA may reduce or waive the payment of fees, if such reduction or waiver would be in the public interest.

§ 2.121 Preparation of annual report.

On or before March 1 of each calendar year, EPA's Freedom of Information Officer will submit an Agency report covering the preceding calendar year to the Speaker of the House of Representatives and President of the Senate for referral to the appropriate committees of the Congress. The report shall include:

(a) The number of determinations made by EPA not to comply with requests for records made under section 552(a) of the Freedom of Information Act, as amended, and the reasons for each determination;

(b) The number of appeals made by persons under subsection 552(a)(6), the result of such appeals, and the reason for the action upon each appeal that results in a denial for information;

(c) The name(s) and title(s) or position(s) of each person responsible for the denial of records requested under section 552(b) and the number of instances of participation for each;

(d) The results of each proceeding conducted pursuant to subsection 552(a)(4)(f), including a report of the disciplinary action taken against the officer or employee who was primarily responsible for improperly withholding records or an explanation of why disciplinary action was not taken;

(e) A copy of Agency rules regarding the Freedom of Information Act;

(f) A copy of the fee schedule and the total amount of fees collected for making records available; and

(g) Other information related to administering section 552(c).

[FR Doc 75-6880 Filed 3-6-75;8:45 am]

MANUAL OF REFERENCES

Municipal Wastewater Treatment Works Construction Grants Program *

II. PROGRAM GUIDANCE

To assure national uniformity in program implementation and to provide policy direction in integrating the various complex requirements of the Federal water pollution control program, a number of Program Guidance Memoranda were issued to the EPA Regional Offices. These provide planning guidance and general program management information.

A review of all the Program Guidance Memoranda was made prior to issuing these REFERENCES, and a selection was made of only those Memoranda that remain current. Many of the Memoranda were eliminated from this group because they were no longer valid. . . they were superseded, or were in the process of being further modified, or they had a limited term or purpose.

The original Program Guidance (PG-#) numbers have been retained. As additional memoranda and/or revisions to the policy in the retained series are prepared, they will be issued to you.

Currently, Construction Grant Manuals are being developed for use in grant application preparation and processing. These are scheduled for issuance in the first quarter of 1976. Along with the Manuals, mechanisms will be established for updating their contents. After the Manuals are issued, construction grants policy issuances will be integrated into the manual system.

* Under the Federal Water Pollution Control Act Amendments of 1972 (PL 92-500)

MANUAL OF REFERENCES

Municipal Wastewater Treatment Works
Construction Grants Program

II. PROGRAM GUIDANCE

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PG-42 Engineering Services for Wastewater Treatment Facilities, Revision of Fee Structures

PG-44 Escalation Clauses in Construction Grant Projects

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PG-46 Large City Problem in State Priority Lists

PG-47 Relationship between 201 and 208 Planning

PG-50 Consideration of Secondary Environmental Effects in the Construction Grants Process

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

June 25, 1973

PROGRAM GUIDANCE MEMORANDUM
PG-3

OFFICE OF ENFORCEMENT
AND GENERAL COUNSEL

MEMORANDUM

SUBJECT: Use of Revenue Sharing Funds
for Waste Treatment Projects

FROM: Assistant General Counsel Grants

TO: Director, Grants Administration Division
Director, Municipal Waste Water Systems Division

Questions have arisen concerning the extent to which revenue sharing funds obtained by communities or states under the State and Local Fiscal Assistance Act of 1972 (PL 92-512) may be utilized for projects funded by EPA.

Generally, revenue sharing funds may not be used as matching funds under EPA grants, as is made clear in regulations issued on April 10, 1973 by the Department of Treasury (31 CFR Part 51, published at 38 F.R. 9132):

§ 51.30 Matching funds.

> "(a) In general. --Entitlement funds may not be used, directly or indirectly, as a contribution in order to obtain any Federal funds under any Federal program. The indirect use of entitlement funds to match Federal funds is defined to mean the allocation of entitlement funds to a nonmatching expenditure and thereby releasing or displacing local funds which are used for the purpose of matching Federal funds. This prohibition on use of entitlement funds as matching funds applies to Federal programs where Federal funds are required to be matched by non-Federal funds and to Federal programs which allow matching from either Federal or non-Federal funds."

However, revenue sharing funds may be used to "supplement" Federal Grant funds, as further set forth in §51.30(g) of the Treasury regulations:

> "(g) Use of entitlement funds to supplement Federal grant funds. The prohibition on use of entitlement funds contained in paragraph (a) of this section does not prevent the use of entitlement funds to supplement other Federal grant funds. For example, if expenditures for a project exceed the amount available from non-Federal funds plus matched Federal funds, the recipient government may use entitlement funds to defray the excess costs:
> Provided, however, That the entitlement funds are not used to match other Federal funds: And Provided further, That in the case of a unit of local government, the use of entitlement funds to supplement Federal grants is restricted to the category of expenditures as set forth in § 51.31."

Accordingly, since "environmental protection (including sewage disposal, sanitation, and pollution abatement)" is an explicitly authorized expenditure in §51.31 of the Treasury requlations, cost overruns or sewer line or land acquisition costs not included within the scope of an EPA grant as allowable costs may be funded through any revenue sharing funds available to the EPA grantee.

In a memorandum to the Director, Grants Administration Division, dated August 21, 1972 concerning the use of other federal grant funds to meet EPA matching requirements. Mr. Settle of this office set forth the general rule that

> "Funds granted by other Federal agencies for projects may not, absent explicit statutory authorization, be used to meet EPA statutory grant 'matching' requirements for those same projects."

His memorandum discusses a number of other Federal statutes which do permit at least limited use of Federal funds for matching purposes. Federal revenue sharing funds available under PL 92-512 fall within the "general rule" and cannot be used to match EPA grant funds.

Enforcement of this prohibition upon the use of Federal revenue sharing funds is a function of the Department of Treasury, which should be notified of any apparant violation.

signed

Joseph M. Zorc

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

PROGRAM GUIDANCE MEMORANDUM
PG-14

SUBJECT: Experience Clauses for Equipment Suppliers DATE: July 11, 1973

FROM: Harold P. Cahill, Jr., Director signed
Municipal Waste Water Systems Division

TO: All Regional Administrators
Attn: Air and Water Programs Divisions

We have recently received a letter from a firm that cites restrictive experience clauses in several projects (copy attached). The specific instances cited are being looked into by the Regions concerned.

Restrictive experience clauses in bid specifications are not allowable because they prevent the entrance of new firms and innovations into he bidding process. They also are contrary to the spirit, if not the letter, of the law, especially Section 204(a)(6) of the FWPCA Amendments of 1972, and Section 35.935-1 of the Title II regulations.

In view of these factors, it needs to be re-emphasized that the policy on restrictive experience clauses still applies as expressed in CG Memorandum No. 71-8, dated March 15, 1971, entitled "Experience Clauses for Equipment Suppliers." That memorandum discourages the general use of experience clauses, but where they are used, the specifications must indicate that equipment that does not meet the specified experience period can be considered if the equipment supplier or manufacturer is willing to provide a bond or cash deposit which will guarantee replacement in the event of failure.

Since State review of plans and specifications should include attention to any experience clauses, we request that you inform each State agency in your Region of the non-allowance of restrictive experience clauses.

Attachment

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460
OFFICE OF WATER PROGRAM OPERATIONS

PROGRAM GUIDANCE NO. PG-16
DATE: 9/11/73

TO: All Regional Administrators
Attention: Director, Air & Water Programs Division

FROM: Harold P. Cahill, Jr.
Director, Municipal Waste Water Systems Division

SUBJECT: Waste Stabilization Ponds

Introduction:

The information on secondary treatment (40 CFR 133) has focused attention on the limitations of some wastewater treatment processes which, in the past, were defined as "secondary". In particular, there have been reports that many waste stabilization ponds may not meet the secondary treatment requirements. The purpose of this memorandum is to establish policies relating to waste stabilization ponds.

Policy:

Waste stabilization ponds must achieve effluent limitation requirements. As a minimum, they must meet effluent limitations based on the secondary treatment performance requirements contained in 40 CFR Part 133, or be upgraded to meet such requirements.

Applicability:

This memorandum is applicable to municipal wastewater stabilization ponds where the design is based on photosynthetic oxygenation.

Discussion:

Section 301(b)(1)(B) of the Federal Water Pollution Control Act Amendments of 1972 ("the Act") requires that publicly owned treatment works achieve effluent limitations based on secondary treatment as defined by the Administrator pursuant to Section 304(d)(1) of the Act (See 40 CFR 133). Neither the Act nor its legislative history indicate an intent to vary this requirement for different types of treatment processes. Therefore it has been concluded that the policy for waste stabilization ponds should be as stated in the previous section.

It is not the intent of this policy to require that existing waste stabilization ponds be replaced by mechanical plants. We recognize the reliability and operational simplicity factors which in the past have led many municipalities (particularly smaller communities) to select waste stabilization ponds. In most cases it should be feasible to upgrade existing ponds while retaining these features.

Regional Action on Proposed New Waste Stabilization Ponds:

In view of the requirements of the Act, Regional Administrators should exercise caution in awarding a construction grant where a new pond will be the sole treatment method. Such grants should not be awarded unless the grant applicant clearly demonstrates that the proposed pond will meet applicable effluent limitations.

Future Action:

EPA has formed a work group to assemble information on upgrading existing ponds and define the conditions under which new ponds could be acceptable. Target date for this information is November, 1973.

Additional Information:

The attached memorandum from the Deputy Assistant Administrator for Water Program Operations to the Regional Administrator, Region VII provides additional background on this subject.

Attachment

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

SUBJECT: Secondary Treatment Regulations DATE: August 17, 1973

signed

FROM: John T. Rhett, Deputy Assistant Administrator
for Water Program Operations

TO: Jerome H. Svore
Regional Administrator, Region VII

This is in response to your June 29, 1973 memorandum to Mr. Cahill in which you addressed the difficulty of achieving the levels of effluent quality as defined in the proposed secondary treatment regulation with waste stabilization ponds.

We agree that waste stabilization ponds as they are presently designed, will probably not be capable of achieving the proposed secondary treatment regulation. From the data we have, it appears that the BOD_5 limitation is achievable. However, the suspended solids and fecal coliform limits will require improved pond design and operation and additional treatment steps for algae removal and disinfection.

You suggested that for an interim period of one or two years we approve ponds with a minimum of three cells operated in series if water quality criteria would not be violated. Assuming that feasible and economical techniques are developed in the interim period, you proposed to then require upgrading of ponds to meet the secondary treatment requirements.

This approach to the problem is not permitted by the Act. All publicly owned treatment works must achieve secondary treatment as defined in regulations published pursuant to Section 304(d)(1) by 1977. The secondary treatment definition must be based on the capabilities of secondary treatment technology and not water quality effects.

The only feasible means we have for accepting ponds as they are presently designed would be to include in the secondary treatment regulations a separate definition of the effluent quality attainable by waste stabilization ponds. This definition would probably include limits on only BOD_5 since the suspended solids and fecal coliform levels are generally unpredictable. The major problem with this approach is

that the regulation would also have to recognize separately the capabilities of all other "secondary treatment" process combinations of which there are many. This would lead to extreme difficulties in the cost-effectiveness analysis, writing discharge permits etc. and would not encourage improvements in marginal secondary treatment processes such as ponds and trickling filters.

In our opinion, the secondary treatment requirements must be uniform for all plants. It must be sufficiently stringent to force improved design and operation without precluding the use of presently available technologies.

We do not feel that the regulation, as proposed precludes the use of waste stablization ponds. Rather it will permit the use of ponds with other unit processes added to accomplish algae removal and disinfection or with disposal of the effluent to the land rather than navigable waters. Substitution of mechanical plants for existing ponds does not appear to be the solution in the majority of cases. Techniques that can be considered for pond upgrading are listed below:

a. Improvements in pond design.

    1. Baffles to prevent short circuiting
    2. Controlled drawoff between cells
    3. Cleaning sedimentation cells
    4. Supplemental aeration
    5. Expansion by adding cells
    6. Effluent recirculation
    7. Series operation of cells

b. Land Application of effluent.

c. Solids (algae) removal from effluent.

    1. Intermittant sand filter
    2. Chemical coagulation/sedimentation
    3. Chemical coagulation/filtration
    4. Centrifugation
    5. Dissolved air floatation

d. Disinfection.

As you know, we are now considering a definition for best practicable technology (BPT) which includes requirements for seasonal nitrification. From the data we have, it appears that once upgraded to include algae removal and disinfection, ponds will also be capable of meeting the BPT definition being considered without additional treatment steps. Since the BPT definition must be achieved by all POTW not later than 1983 it seems imperative that we not relax the secondary treatment requirements for ponds now hoping that better solutions will be found later.

The decision has been made that the secondary treatment regulation will not be modified to accomodate the capabilities of waste stabilization ponds as they are presently designed and operated. A program memorandum reflecting this decision is being prepared and will be forwarded to the Regional Administrators shortly. The secondary treatment regulation has been finalized and will be published in the Federal Register on about August 20th (A copy is attached for your information).

Recognizing that there is little information which has been published on pond upgrading techniques, we are also beginning development of technical bulletin on the subject. A working group to assist in this effort is being formed. Bill Whittington of the Municipal Waste Water Systems Division has been assigned responsibility for the Technical Bulletin and will chair the working group. He will be requesting Region VII participation. We hope to have a final draft of the Technical Bulletin by late September.

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

APR 15 1975

SUBJECT: Standardized Construction Contract Documents
Program Guidance Memorandum No. PG-17A

DATE:

FROM: Harold P. Cahill, Jr., Director
Municipal Construction Division

TO: All Regional Administrators
ATTN: Construction Grants Personnel

The attached revised standardized construction contract documents have been prepared by the Interagency Committee Coordination of Sewer and Water Programs. The documents are the product of a working group composed of representatives of professional organizations, trade associations, and the Federal agencies involved in the grant programs for sewer and waste facilities.

Although the use of the documents by grantees is not mandatory, in the interest of simplifying procedures, grantees should be urged to use the standardized construction contract documents to the extent that they are compatible with local and State laws. The importance of these forms should also be conveyed to the State to gain their support for their regular use.

While the forms serve well as basic contract documents, they do not address all informational requirements prerequisite to EPA grant offers. Applicants therefore, will have to be apprised of the need to furnish additional supporting documents such as wage determinations, evidence of competitive bidding, etc., as necessary.

EPA Form 1320-6 (Rev. 6-72)

CONTRACT DOCUMENTS

For

CONSTRUCTION OF FEDERALLY ASSISTED WATER AND SEWER PROJECTS

LIST OF DOCUMENTS

1. Advertisement for Bids
2. Information for Bidders
3. Bid
4. Bid Bond
5. Agreement
6. Payment Bond
7. Performance Bond
8. Notice of Award
9. Notice to Proceed
10. Change Order
11. General Conditions

PREFACE

These Contract Documents are acceptable for use by borrowers and grantees in Federally assisted projects funded by the below listed Federal agencies.

Local or state legislation may prohibit the use of some sections. The substitution or revision of individual sections, therefore, may be deemed appropriate.

Jointly prepared and endorsed by:

Economic Development Administration, Department of Commerce
Environmental Protection Agency
Farmers Home Administration, Department of Agriculture
Department of Housing and Urban Development
American Consulting Engineers Council
American Public Works Association
American Society of Civil Engineers
Associated General Contractors of America
National Society of Professional Engineers
National Utility Contractors Association

Copies of these Documents may be obtained from the following associations:

Associated General Contractors of America
1957 E Street, N.W.
Washington, D.C.
Tele: 202/393-2040

American Consulting Engineers Council
1155 15th Street, N.W.
Washington, D.C.
Tele: 202/296-1780

National Society of Professional Engineers
2029 K Street, N.W.
Washington, D. C.
Tele: 202/331-7020

American Public Works Association
1313 East 60th Street
Chicago, Illinois
Tele: 312/947-2542

ADVERTISEMENT FOR BIDS

Owner

Address

Separate sealed BIDS for the construction of (briefly describe nature, scope, and major elements of the work)

will be received by

at the office of

until , (Standard Time – Daylight Savings Time) ,

19 , and then at said office publicly opened and read aloud.

The CONTRACT DOCUMENTS may be examined at the following locations:

Copies of the CONTRACT DOCUMENTS may be obtained at the office of

located at

upon payment of $ for each set.

Any BIDDER, upon returning the CONTRACT DOCUMENTS promptly and in good condition, will be refunded his payment, and any non-bidder upon so returning the CONTRACT DOCUMENTS will be refunded $.

Date

INFORMATION FOR BIDDERS

BIDS will be received by _____

(herein called the "OWNER"), at _____

until _____, 19_____, and then at said office publicly opened and read aloud.

Each BID must be submitted in a sealed envelope, addressed to _____ at _____. Each sealed envelope containing a BID must be plainly marked on the outside as BID for _____ and the envelope should bear on the outside the name of the BIDDER, his address, his license number if applicable and the name of the project for which the BID is submitted. If forwarded by mail, the sealed envelope containing the BID must be enclosed in another envelope addressed to the OWNER at _____

All BIDS must be made on the required BID form. All blank spaces for BID prices must be filled in, in ink or typewritten, and the BID form must be fully completed and executed when submitted. Only one copy of the BID form is required.

The OWNER may waive any informalities or minor defects or reject any and all BIDS. Any BID may be withdrawn prior to the above scheduled time for the opening of BIDS or authorized postponement thereof. Any BID received after the time and date specified shall not be considered. No BIDDER may withdraw a BID within 60 days after the actual date of the opening thereof. Should there be reasons why the contract cannot be awarded within the specified period, the time may be extended by mutual agreement between the OWNER and the BIDDER.

BIDDERS must satisfy themselves of the accuracy of the estimated quantities in the BID Schedule by examination of the site and a review of the drawings and specifications including ADDENDA. After BIDS have been submitted, the BIDDER shall not assert that there was a misunderstanding concerning the quantities of WORK or of the nature of the WORK to be done.

The OWNER shall provide to BIDDERS prior to BIDDING, all information which is pertinent to, and delineates and describes, the land owned and rights-of-way acquired or to be acquired.

The CONTRACT DOCUMENTS contain the provisions required for the construction of the PROJECT. Information obtained from an officer, agent, or employee of the OWNER or any other person shall not affect the risks or obligations assumed by the CONTRACTOR or relieve him from fulfilling any of the conditions of the contract.

Each BID must be accompanied by a BID bond payable to the OWNER for five percent of the total amount of the BID. As soon as the BID prices have been compared, the OWNER will return the BONDS of all except the three lowest responsible BIDDERS. When the Agreement is executed the bonds of the two remaining unsuccessful BIDDERS will be returned. The BID BOND of the successful BIDDER will be retained until the payment BOND and performance BOND have been executed and approved, after which it will be returned. A certified check may be used in lieu of a BID BOND.

A performance BOND and a payment BOND, each in the amount of 100 percent of the CONTRACT PRICE, with a corporate surety approved by the OWNER, will be required for the faithful performance of the contract.

Attorneys-in-fact who sign BID BONDS or payment BONDS and performance BONDS must file with each BOND a certified and effective dated copy of their power of attorney.

The party to whom the contract is awarded will be required to execute the Agreement and obtain the performance BOND and payment BOND within ten (10) calendar days from the date when NOTICE OF AWARD is delivered to the BIDDER. The NOTICE OF AWARD shall be accompanied by the necessary Agreement and BOND forms. In case of failure of the BIDDER to execute the Agreement, the OWNER may at his option consider the BIDDER in default, in which case the BID BOND accompanying the proposal shall become the property of the OWNER.

The OWNER within ten (10) days of receipt of acceptable performance BOND, payment BOND and Agreement signed by the party to whom the Agreement was awarded shall sign the Agreement and return to such party an executed duplicate of the Agreement. Should the OWNER not execute the Agreement within such period, the BIDDER may by WRITTEN NOTICE withdraw his signed Agreement. Such notice of withdrawal shall be effective upon receipt of the notice by the OWNER.

The NOTICE TO PROCEED shall be issued within ten (10) days of the execution of the Agreement by the OWNER. Should there be reasons why the NOTICE TO PROCEED cannot be issued within such period, the time may be extended by mutual agreement between the OWNER and CONTRACTOR. If the NOTICE TO PROCEED has not been issued within the ten (10) day period or within the period mutually agreed upon, the CONTRACTOR may terminate the Agreement without further liability on the part of either party.

The OWNER may make such investigations as he deems necessary to determine the ability of the BIDDER to perform the WORK, and the BIDDER shall furnish to the OWNER all such information and data for this purpose as the OWNER may request. The OWNER reserves the right to reject any BID if the evidence submitted by, or investigation of, such BIDDER fails to satisfy the OWNER that such BIDDER is properly qualified to carry out the obligations of the Agreement and to complete the WORK contemplated therein.

A conditional or qualified BID will not be accepted.

Award will be made to the lowest responsible BIDDER.

All applicable laws, ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the PROJECT shall apply to the contract throughout.

Each BIDDER is responsible for inspecting the site and for reading and being thoroughly familiar with the CONTRACT DOCUMENTS. The failure or omission of any BIDDER to do any of the foregoing shall in no way relieve any BIDDER from any obligation in respect to his BID.

Further, the BIDDER agrees to abide by the requirements under Executive Order No. 11246, as amended, including specifically the provisions of the equal opportunity clause set forth in the SUPPLEMENTAL GENERAL CONDITIONS.

The low BIDDER shall supply the names and addresses of major material SUPPLIERS and SUBCONTRACTORS when requested to do so by the OWNER.

Inspection trips for prospective BIDDERS will leave from the office of the

_____ at _____

The ENGINEER is _____. His address

is _____

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BID

Proposal of _____ (hereinafter called "BIDDER"), organized and existing under the laws of the State of _____ doing business as _____*.

To the _____

_____ (hereinafter called "OWNER").

In compliance with your Advertisement for Bids, BIDDER hereby proposes to perform all WORK for the construction of _____

_____

in strict accordance with the CONTRACT DOCUMENTS, within the time set forth therein, and at the prices stated below.

By submission of this BID, each BIDDER certifies, and in the case of a joint BID each party thereto certifies as to his own organization, that this BID has been arrived at independently, without consultation, communication, or agreement as to any matter relating to this BID with any other BIDDER or with any competitor.

BIDDER hereby agrees to commence WORK under this contract on or before a date to be specified in the NOTICE TO PROCEED and to fully complete the PROJECT within _____ consecutive calendar days thereafter. BIDDER further agrees to pay as liquidated damages, the sum of $ _____ for each consecutive calendar day thereafter as provided in Section 15 of the General Conditions.

BIDDER acknowledges receipt of the following ADDENDUM:

_____

_____

_____

*Insert "a corporation", "a partnership", or "an individual" as applicable.

BIDDER agrees to perform all the work described in the CONTRACT DOCUMENTS for the following unit prices or lump sum:

BID SCHEDULE

NOTE: BIDS shall include sales tax and all other applicable taxes and fees.

NO.	ITEM	UNIT	UNIT PRICE	AMOUNT	TOTAL PRICE

NO.	ITEM	UNIT	UNIT PRICE	AMOUNT	TOTAL PRICE

TOTAL OF BID ..... **$** _____

LUMP SUM PRICE (if applicable) ..... **$** _____

Respectfully submitted:

_____ _____

Signature Address

_____ _____

Title Date

_____ _____

License Number (if applicable)

(SEAL – if BID is by a corporation)

Attest _____

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned, _____

_____ as Principal, and

_____ as Surety, are hereby

held and firmly bound unto _____ as OWNER

in the penal sum of _____

for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, successors and assigns.

Signed, this _____ day of _____, 19_____.

The Condition of the above obligation is such that whereas the Principal has submitted to _____ a certain BID, attached hereto and hereby made a part hereof to enter into a contract in writing, for the

_____

_____

_____

NOW, THEREFORE,

(a) If said BID shall be rejected, or

(b) If said BID shall be accepted and the Principal shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with said BID) and shall furnish a BOND for his faithful performance of said contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said BID,

then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its BOND shall be in no way impaired or affected by any extension of the time within which the OWNER may accept such BID; and said Surety does herby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

_____ (L.S.)
Principal

_____
Surety

By: _____

IMPORTANT – Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the project is located.

AGREEMENT

THIS AGREEMENT, made this _____ day of _____, 19 _____, by and between _____ (Name of Owner: (an individual) _____, hereinafter called "OWNER" and _____ doing business as (an individual,) or (a partnership,) or (a corporation) hereinafter called "CONTRACTOR".

WITNESSETH: That for and in consideration of the payments and agreements hereinafter mentioned:

1. The CONTRACTOR will commence and complete the construction of

_____

2. The CONTRACTOR will furnish all of the material, supplies, tools, equipment, labor and other services necessary for the construction and completion of the PROJECT described herein.

3. The CONTRACTOR will commence the work required by the CONTRACT DOCUMENTS within _____ calendar days after the date of the NOTICE TO PROCEED and will complete the same within _____ calendar days unless the period for completion is extended otherwise by the CONTRACT DOCUMENTS.

4. The CONTRACTOR agrees to perform all of the WORK described in the CONTRACT DOCUMENTS and comply with the terms therein for the sum of $ _____, or as shown in the BID schedule.

5. The term "CONTRACT DOCUMENTS" means and includes the following:

(A) Advertisement For BIDS

(B) Information For BIDDERS

(C) BID

(D) BID BOND

(E) Agreement

(F) General Conditions

(G) SUPPLEMENTAL GENERAL CONDITIONS

(H) Payment BOND

(I) Performance BOND

(J) NOTICE OF AWARD

(K) NOTICE TO PROCEED

(L) CHANGE ORDER

(M) DRAWINGS prepared by _____
numbered _____ through _____, and dated _____,
19 _____

(N) SPECIFICATIONS prepared or issued by _____

_____,

dated _____, 19_____

(O) ADDENDA:

No. _____, dated _____, 19_____

No. _____, dated _____, 19_____

No. _____, dated _____, 19_____

No. _____, dated _____, 19_____

No. _____, dated _____, 19_____

No. _____, dated _____, 19_____.

6. The OWNER will pay to the CONTRACTOR in the manner and at such times as set forth in the General Conditions such amounts as required by the CONTRACT DOCUMENTS.

7. This Agreement shall be binding upon all parties hereto and their respective heirs, executors, administrators, successors, and assigns.

IN WITNESS WHEREOF, the parties hereto have executed, or caused to be executed by their duly authorized officials, this Agreement in (_____) each of
(Number of Copies)
which shall be deemed an original on the date first above written.

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OWNER:

_____

BY _____

Name _____
(Please Type)

Title _____

(SEAL)

ATTEST:

_____

Name _____
(Please Type)

Title _____

CONTRACTOR:

_____

BY _____

Name _____
(Please Type)

Address _____

_____

(SEAL)

ATTEST:

_____

Name _____
(Please Type)

_____

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

a (Corporation, Partnership or Individual) , hereinafter called Principal, and

(Name of Surety)

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto

(Name of Owner)

(Address of Owner)

hereinafter called OWNER, in the penal sum of Dollars, $( )

in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER, dated the day of 19 , a copy of which is hereto attached and made a part hereof for the construction of:

NOW, THEREFORE, if the Principal shall promptly make payment to all persons, firms, SUBCONTRACTORS, and corporations furnishing materials for or performing labor in the prosecution of the WORK provided for in such contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such WORK, and all insurance premiums on said WORK, and for all labor, performed in such WORK whether by SUBCONTRACTOR or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

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PROVIDED, FURTHER, that the said Surety for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the WORK to be performed thereunder or the SPECIFICATIONS accompanying the same shall in any wise affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in _____ (number) counterparts, each one of which shall be deemed an original, this the _____ day of _____ 19 _____.

ATTEST:

_____
(Principal Secretary)

_____
Principal

(SEAL)

By _____ (s)

_____
(Address)

_____
Witness as to Principal

_____
(Address)

_____

_____
Surety

ATTEST:

By _____
Attorney-in-Fact

_____
Witness as to Surety

_____
(Address)

_____

_____
(Address)

NOTE: Date of BOND must not be prior to date of Contract.
If CONTRACTOR is Partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the PROJECT is located.

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PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: that

_____
(Name of Contractor)

_____
(Address of Contractor)

a _____ hereinafter called Principal, and
(Corporation, Partnership or Individual)

_____
(Name of Surety)

_____
(Address of Surety)

hereinafter called Surety, are held and firmly bound unto _____

_____
(Name of owner)

_____
(Address of Owner)

hereinafter called OWNER, in the penal sum of _____

_____ Dollars, $( )

in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER, dated the _____ day of _____, 19___, a copy of which is hereto attached and made a part hereof for the construction of:

_____

_____

_____

_____

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by the OWNER, with or without notice to the Surety and during the one year guaranty period, and if he shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the OWNER from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the OWNER all outlay and expense which the OWNER may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

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PROVIDED, FURTHER, that the said surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to WORK to be performed thereunder or the SPECIFICATIONS accompanying the same shall in any wise affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in _____ (Number) counterparts, each one of which shall be deemed an original, this the _____ day of _____ 19_____.

ATTEST:

_____ (Principal Secretary)

Principal

By _____

(SEAL)

_____ (Witness as to Principal)

_____ (Address)

_____ (Address)

_____ Surety

ATTEST:

_____ (Surety Secretary)

(SEAL)

_____ (Witness as to Surety)

_____ (Address)

By _____ Attorney-in-Fact

_____ (Address)

NOTE: Date of BOND must not be prior to date of Contract.
If CONTRACTOR is Partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the PROJECT is located.

NOTICE OF AWARD

To: _____

_____

_____

_____

_____

PROJECT Description: _____

_____

_____

The OWNER has considered the BID submitted by you for the above described WORK in response to its Advertisement for Bids dated _____, 19 _____ and Information for Bidders.

You are hereby notified that your BID has been accepted for items in the amount of $ _____.

You are required by the Information for Bidders to execute the Agreement and furnish the required CONTRACTOR'S Performance BOND, Payment BOND and certificates of insurance within ten (10) calendar days from the date of this Notice to you.

If you fail to execute said Agreement and to furnish said BONDS within ten (10) days from the date of this Notice, said OWNER will be entitled to consider all your rights arising out of the OWNER'S acceptance of your BID as abandoned and as a forfeiture of your BID BOND. The OWNER will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the OWNER.

Dated this _____ day of _____, 19 _____.

_____
Owner

By _____

Title _____

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE OF AWARD is hereby acknowledged

by _____.

this the _____ day of _____, 19 _____

By _____

Title _____

NOTICE TO PROCEED

To: _____ Date: _____

_____ Project: _____

_____ _____

_____ _____

_____ _____

You are hereby notified to commence WORK in accordance with the Agreement dated _____, 19____, on or before _____, 19____, and you are to complete the WORK within _____ consecutive calendar days thereafter. The date of completion of all WORK is therefore _____, 19____

_____
Owner

By _____

Title _____

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED is hereby acknowledged by _____

_____,

this the _____day

of _____, 19____

_____

By _____

Title _____

CHANGE ORDER

Order No. _____

Date: _____

Agreement Date: _____

NAME OF PROJECT: _____

_____

OWNER: _____

CONTRACTOR: _____

The following changes are hereby made to the CONTRACT DOCUMENTS:

Justification:

Change to CONTRACT PRICE:

Original CONTRACT PRICE $_____

Current CONTRACT PRICE adjusted by previous CHANGE ORDER $_____

The CONTRACT PRICE due to this CHANGE ORDER will be (increased) (decreased) by: $_____

The new CONTRACT PRICE including this CHANGE ORDER will be $_____

Change to CONTRACT TIME:

The CONTRACT TIME will be (increased) (decreased) by _____ calendar days.

The date for completion of all work will be _____ (Date).

Approvals Required:
To be effective this Order must be approved by the Federal agency if it changes the scope or objective of the PROJECT, or as may otherwise be required by the SUPPLEMENTAL GENERAL CONDITIONS.

Requested by: _____

Recommended by: _____

Ordered by: _____

Accepted by: _____

Federal Agency Approval (where applicable) _____

GENERAL CONDITIONS

1. Definitions
2. Additional Instructions and Detail Drawings
3. Schedules, Reports and Records
4. Drawings and Specifications
5. Shop Drawings
6. Materials, Services and Facilities
7. Inspection and Testing
8. Substitutions
9. Patents
10. Surveys, Permits, Regulations
11. Protection of Work, Property, Persons
12. Supervision by Contractor
13. Changes in the Work
14. Changes in Contract Price
15. Time for Completion and Liquidated Damages
16. Correction of Work
17. Subsurface Conditions
18. Suspension of Work, Termination and Delay
19. Payments to Contractor
20. Acceptance of Final Payment as Release
21. Insurance
22. Contract Security
23. Assignments
24. Indemnification
25. Separate Contracts
26. Subcontracting
27. Engineer's Authority
28. Land and Rights-of-Way
29. Guaranty
30. Arbitration
31. Taxes

1. *DEFINITIONS*

1.1 Wherever used in the CONTRACT DOCUMENTS, the following terms shall have the meanings indicated which shall be applicable to both the singular and plural thereof:

1.2 ADDENDA – Written or graphic instruments issued prior to the execution of the Agreement which modify or interpret the CONTRACT DOCUMENTS, DRAWINGS and SPECIFICATIONS, by additions, deletions, clarifications or corrections.

1.3 BID – The offer or proposal of the BIDDER submitted on the prescribed form setting forth the prices for the WORK to be performed.

1.4 BIDDER – Any person, firm or corporation submitting a BID for the WORK.

1.5 BONDS – Bid, Performance, and Payment Bonds and other instruments of security, furnished by the CONTRACTOR and his surety in accordance with the CONTRACT DOCUMENTS.

1.6 CHANGE ORDER – A written order to the CONTRACTOR authorizing an addition, deletion or revision in the WORK within the general scope of the CONTRACT DOCUMENTS, or authorizing an adjustment in the CONTRACT PRICE or CONTRACT TIME.

1.7 CONTRACT DOCUMENTS – The contract, including Advertisement For Bids, Information For Bidders, BID, Bid Bond, Agreement, Payment Bond, Performance Bond, NOTICE OF AWARD, NOTICE TO PROCEED, CHANGE ORDER, DRAWINGS, SPECIFICATIONS, and ADDENDA.

1.8 CONTRACT PRICE – The total monies payable to the CONTRACTOR under the terms and conditions of the CONTRACT DOCUMENTS.

1.9 CONTRACT TIME – The number of calendar days stated in the CONTRACT DOCUMENTS for the completion of the WORK.

1.10 CONTRACTOR – The person, firm or corporation with whom the OWNER has executed the Agreement.

1.11 DRAWINGS – The part of the CONTRACT DOCUMENTS which show the characteristics and scope of the WORK to be performed and which have been prepared or approved by the ENGINEER.

1.12 ENGINEER – The person, firm or corporation named as such in the CONTRACT DOCUMENTS.

1.13 FIELD ORDER – A written order effecting a change in the WORK not involving an adjustment in the CONTRACT PRICE or an extension of the CONTRACT TIME, issued by the ENGINEER to the CONTRACTOR during construction.

1.14 NOTICE OF AWARD – The written notice of the acceptance of the BID from the OWNER to the successful BIDDER.

1.15 NOTICE TO PROCEED – Written communication issued by the OWNER to the CONTRACTOR authorizing him to proceed with the WORK and establishing the date of commencement of the WORK.

1.16 OWNER – A public or quasi-public body or authority, corporation, association, partnership, or individual for whom the WORK is to be performed.

1.17 PROJECT – The undertaking to be performed as provided in the CONTRACT DOCUMENTS.

1.18 RESIDENT PROJECT REPRESENTATIVE – The authorized representative of the OWNER who is assigned to the PROJECT site or any part thereof.

1.19 SHOP DRAWINGS – All drawings, diagrams, illustrations, brochures, schedules and other data which are prepared by the CONTRACTOR, a SUBCONTRACTOR, manufacturer, SUPPLIER or distributor, which illustrate how specific portions of the WORK shall be fabricated or installed.

1.20 SPECIFICATIONS – A part of the CONTRACT DOCUMENTS consisting of written descriptions of a technical nature of materials, equipment, construction systems, standards and workmanship.

1.21 SUBCONTRACTOR – An individual, firm or corporation having a direct contract with the CONTRACTOR or with any other SUBCONTRACTOR for the performance of a part of the WORK at the site.

1.22 SUBSTANTIAL COMPLETION – That date as certified by the ENGINEER when the construction of the PROJECT or a specified part thereof is sufficiently completed, in accordance with the CONTRACT DOCUMENTS, so that the PROJECT or specified part can be utilized for the purposes for which it is intended.

1.23 SUPPLEMENTAL GENERAL CONDITIONS –

Modifications to General Conditions required by a Federal agency for participation in the PROJECT and approved by the agency in writing prior to inclusion in the CONTRACT DOCUMENTS, or such requirements that may be imposed by applicable state laws.

1.24 SUPPLIER – Any person or organization who supplies materials or equipment for the WORK, including that fabricated to a special design, but who does not perform labor at the site.

1.25 WORK – All labor necessary to produce the construction required by the CONTRACT DOCUMENTS, and all materials and equipment incorporated or to be incorporated in the PROJECT.

1.26 WRITTEN NOTICE – Any notice to any party of the Agreement relative to any part of this Agreement in writing and considered delivered and the service thereof completed, when posted by certified or registered mail to the said party at his last given address, or delivered in person to said party or his authorized representative on the WORK.

2. *ADDITIONAL INSTRUCTIONS AND DETAIL DRAWINGS*

2.1 The CONTRACTOR may be furnished additional instructions and detail drawings, by the ENGINEER, as necessary to carry out the WORK required by the CONTRACT DOCUMENTS.

2.2 The additional drawings and instruction thus supplied will become a part of the CONTRACT DOCUMENTS. The CONTRACTOR shall carry out the WORK in accordance with the additional detail drawings and instructions.

3. *SCHEDULES, REPORTS AND RECORDS*

3.1 The CONTRACTOR shall submit to the OWNER such schedule of quantities and costs, progress schedules, payrolls, reports, estimates, records and other data where applicable as are required by the CONTRACT DOCUMENTS for the WORK to be performed.

3.2 Prior to the first partial payment estimate the CONTRACTOR shall submit construction progress schedules showing the order in which he proposes to carry on the WORK, including dates at which he will start the various parts of the WORK, estimated date of completion of each part and, as applicable:

3.2.1. The dates at which special detail drawings will be required; and

3.2.2 Respective dates for submission of SHOP DRAWINGS, the beginning of manufacture, the testing and the installation of materials, supplies and equipment.

3.3 The CONTRACTOR shall also submit a schedule of payments that he anticipates he will earn during the course of the WORK.

4. *DRAWINGS AND SPECIFICATIONS*

4.1 The intent of the DRAWINGS and SPECIFICATIONS is that the CONTRACTOR shall furnish all labor, materials, tools, equipment, and transportation necessary for the proper execution of the WORK in accordance with the CONTRACT DOCUMENTS and all incidental work necessary to complete the PROJECT in an acceptable manner, ready for use, occupancy or operation by the OWNER.

4.2 In case of conflict between the DRAWINGS and SPECIFICATIONS, the SPECIFICATIONS shall govern. Figure dimensions on DRAWINGS shall govern over scale dimensions, and detailed DRAWINGS shall govern over general DRAWINGS.

4.3 Any discrepancies found between the DRAWINGS and SPECIFICATIONS and site conditions or any inconsistencies or ambiguities in the DRAWINGS or SPECIFICATIONS shall be immediately reported to the ENGINEER, in writing, who shall promptly correct such inconsistencies or ambiguities in writing. WORK done by the CONTRACTOR after his discovery of such discrepancies, inconsistencies or ambiguities shall be done at the CONTRACTOR'S risk.

5. *SHOP DRAWINGS*

5.1 The CONTRACTOR shall provide SHOP DRAWINGS as may be necessary for the prosecution of the WORK as required by the CONTRACT DOCUMENTS. The ENGINEER shall promptly review all SHOP DRAWINGS. The ENGINEER'S approval of any SHOP DRAWING shall not release the CONTRACTOR from responsibility for deviations from the CONTRACT DOCUMENTS. The approval of any SHOP DRAWING which substantially deviates from the requirement of the CONTRACT DOCUMENTS shall be evidenced by a CHANGE ORDER.

5.2 When submitted for the ENGINEER'S review, SHOP DRAWINGS shall bear the CONTRACTOR'S certification that he has reviewed, checked and approved the SHOP DRAWINGS and that they are in conformance with the requirements of the CONTRACT DOCUMENTS.

5.3 Portions of the WORK requiring a SHOP DRAWING or sample submission shall not begin until the SHOP DRAWING or submission has been approved by the ENGINEER. A copy of each approved SHOP DRAWING and each approved sample shall be kept in good order by the CONTRACTOR at the site and shall be available to the ENGINEER.

6. *MATERIALS, SERVICES AND FACILITIES*

6.1 It is understood that, except as otherwise specifically stated in the CONTRACT DOCUMENTS, the CONTRACTOR shall provide and pay for all materials, labor, tools, equipment, water, light, power, transportation, supervision, temporary construction of any nature, and all other services and facilities of any nature whatsoever necessary to execute, complete, and deliver the WORK within the specified time.

6.2 Materials and equipment shall be so stored as to insure the preservation of their quality and fitness for the WORK. Stored materials and equipment to be incorporated in the WORK shall be located so as to facilitate prompt inspection.

6.3 Manufactured articles, materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned as directed by the manufacturer.

6.4 Materials, supplies and equipment shall be in accordance with samples submitted by the CONTRACTOR and approved by the ENGINEER.

6.5 Materials, supplies or equipment to be incorporated into the WORK shall not be purchased by the

CONTRACTOR or the SUBCONTRACTOR subject to a chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller.

7. *INSPECTION AND TESTING*

7.1 All materials and equipment used in the construction of the PROJECT shall be subject to adequate inspection and testing in accordance with generally accepted standards, as required and defined in the CONTRACT DOCUMENTS.

7.2 The OWNER shall provide all inspection and testing services not required by the CONTRACT DOCUMENTS.

7.3 The CONTRACTOR shall provide at his expense the testing and inspection services required by the CONTRACT DOCUMENTS.

7.4 If the CONTRACT DOCUMENTS, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any WORK to specifically be inspected, tested, or approved by someone other than the CONTRACTOR, the CONTRACTOR will give the ENGINEER timely notice of readiness. The CONTRACTOR will then furnish the ENGINEER the required certificates of inspection, testing or approval.

7.5 Inspections, tests or approvals by the engineer or others shall not relieve the CONTRACTOR from his obligations to perform the WORK in accordance with the requirements of the CONTRACT DOCUMENTS.

7.6 The ENGINEER and his representatives will at all times have access to the WORK. In addition, authorized representatives and agents of any participating Federal or state agency shall be permitted to inspect all work, materials, payrolls, records of personnel, invoices of materials, and other relevant data and records. The CONTRACTOR will provide proper facilities for such access and observation of the WORK and also for any inspection, or testing thereof.

7.7 If any WORK is covered contrary to the written instructions of the ENGINEER it must, if requested by the ENGINEER, be uncovered for his observation and replaced at the CONTRACTOR'S expense.

7.8 If the ENGINEER considers it necessary or advisable that covered WORK be inspected or tested by others, the CONTRACTOR, at the ENGINEER'S request, will uncover, expose or otherwise make available for observation, inspection or testing as the ENGINEER may require, that portion of the WORK in question, furnishing all necessary labor, materials, tools, and equipment. If it is found that such WORK is defective, the CONTRACTOR will bear all the expenses of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction. If, however, such WORK is not found to be defective, the CONTRACTOR will be allowed an increase in the CONTRACT PRICE or an extension of the CONTRACT TIME, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction and an appropriate CHANGE ORDER shall be issued.

8. *SUBSTITUTIONS*

8.1 Whenever a material, article or piece of equipment is identified on the DRAWINGS or SPECIFICATIONS by reference to brand name or catalogue number, it shall be understood that this is referenced for the purpose of defining the performance or other salient requirements and that other products of equal capacities, quality and function shall be considered. The CONTRACTOR may recommend the substitution of a material, article, or piece of equipment of equal substance and function for those referred to in the CONTRACT DOCUMENTS by reference to brand name or catalogue number, and if, in the opinion of the ENGINEER, such material, article, or piece of equipment is of equal substance and function to that specified, the ENGINEER may approve its substitution and use by the CONTRACTOR. Any cost differential shall be deductible from the CONTRACT PRICE and the CONTRACT DOCUMENTS shall be appropriately modified by CHANGE ORDER. The CONTRACTOR warrants that if substitutes are approved, no major changes in the function or general design of the PROJECT will result. Incidental changes or extra component parts required to accommodate the substitute will be made by the CONTRACTOR without a change in the CONTRACT PRICE or CONTRACT TIME.

9. *PATENTS*

9.1 The CONTRACTOR shall pay all applicable royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and save the OWNER harmless from loss on account thereof, except that the OWNER shall be responsible for any such loss when a particular process, design, or the product of a particular manufacturer or manufacturers is specified, however if the CONTRACTOR has reason to believe that the design, process or product specified is an infringement of a patent, he shall be responsible for such loss unless he promptly gives such information to the ENGINEER.

10. *SURVEYS, PERMITS, REGULATIONS*

10.1 The OWNER shall furnish all boundary surveys and establish all base lines for locating the principal component parts of the WORK together with a suitable number of bench marks adjacent to the WORK as shown in the CONTRACT DOCUMENTS. From the information provided by the OWNER, unless otherwise specified in the CONTRACT DOCUMENTS, the CONTRACTOR shall develop and make all detail surveys needed for construction such as slope stakes, batter boards, stakes for pile locations and other working points, lines, elevations and cut sheets.

10.2 The CONTRACTOR shall carefully preserve bench marks, reference points and stakes and, in case of willful or careless destruction, he shall be charged with the resulting expense and shall be responsible for any mistakes that may be caused by their unnecessary loss or disturbance.

10.3 Permits and licenses of a temporary nature necessary for the prosecution of the WORK shall be secured and paid for by the CONTRACTOR unless otherwise stated in the SUPPLEMENTAL GENERAL CONDITIONS. Permits, licenses and easements for permanent structures or permanent changes in existing facilities shall be secured and paid for by the OWNER, unless otherwise specified. The CONTRACTOR shall give all notices and comply with all laws, ordinances, rules and regulations bearing on the conduct of the WORK as drawn and specified. If the CONTRACTOR

observes that the CONTRACT DOCUMENTS are at variance therewith, he shall promptly notify the ENGINEER in writing, and any necessary changes shall be adjusted as provided in Section 13, CHANGES IN THE WORK.

11. *PROTECTION OF WORK, PROPERTY AND PERSONS*

11.1 The CONTRACTOR will be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the WORK. He will take all necessary precautions for the safety of, and will provide the necessary protection to prevent damage, injury or loss to all employees on the WORK and other persons who may be affected thereby, all the WORK and all materials or equipment to be incorporated therein, whether in storage on or off the site, and other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

11.2 The CONTRACTOR will comply with all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction. He will erect and maintain, as required by the conditions and progress of the WORK, all necessary safeguards for safety and protection. He will notify owners of adjacent utilities when prosecution of the WORK may affect them. The CONTRACTOR will remedy all damage, injury or loss to any property caused, directly or indirectly, in whole or in part, by the CONTRACTOR, any SUBCONTRACTOR or anyone directly or indirectly employed by any of them or anyone for whose acts any of them be liable, except damage or loss attributable to the fault of the CONTRACT DOCUMENTS or to the acts or omissions of the OWNER or the ENGINEER or anyone employed by either of them or anyone for whose acts either of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of the CONTRACTOR.

11.3 In emergencies affecting the safety of persons or the WORK or property at the site or adjacent thereto, the CONTRACTOR, without special instruction or authorization from the ENGINEER or OWNER, shall act to prevent threatened damage, injury or loss. He will give the ENGINEER prompt WRITTEN NOTICE of any significant changes in the WORK or deviations from the CONTRACT DOCUMENTS caused thereby, and a CHANGE ORDER shall thereupon be issued covering the changes and deviations involved.

12. *SUPERVISION BY CONTRACTOR*

12.1 The CONTRACTOR will supervise and direct the WORK. He will be solely responsible for the means, methods, techniques, sequences and procedures of construction. The CONTRACTOR will employ and maintain on the WORK a qualified supervisor or superintendent who shall have been designated in writing by the CONTRACTOR as the CONTRACTOR'S representative at the site. The supervisor shall have full authority to act on behalf of the CONTRACTOR and all communications given to the supervisor shall be as binding as if given to the CONTRACTOR. The supervisor shall be present on the site at all times as required to perform adequate supervision and coordination of the WORK.

13. *CHANGES IN THE WORK*

13.1 The OWNER may at any time, as the need arises, order changes within the scope of the WORK without invalidating the Agreement. If such changes increase or decrease the amount due under the CONTRACT DOCUMENTS, or in the time required for performance of the WORK, an equitable adjustment shall be authorized by CHANGE ORDER.

13.2 The ENGINEER, also, may at any time, by issuing a FIELD ORDER, make changes in the details of the WORK. The CONTRACTOR shall proceed with the performance of any changes in the WORK so ordered by the ENGINEER unless the CONTRACTOR believes that such FIELD ORDER entitles him to a change in CONTRACT PRICE or TIME, or both, in which event he shall give the ENGINEER WRITTEN NOTICE thereof within seven (7) days after the receipt of the ordered change. Thereafter the CONTRACTOR shall document the basis for the change in CONTRACT PRICE or TIME within thirty (30) days. The CONTRACTOR shall not execute such changes pending the receipt of an executed CHANGE ORDER or further instruction from the OWNER.

14. *CHANGES IN CONTRACT PRICE*

14.1 The CONTRACT PRICE may be changed only by a CHANGE ORDER. The value of any WORK covered by a CHANGE ORDER or of any claim for increase or decrease in the CONTRACT PRICE shall be determined by one or more of the following methods in the order of precedence listed below:

(a) Unit prices previously approved.

(b) An agreed lump sum.

(c) The actual cost for labor, direct overhead, materials, supplies, equipment, and other services necessary to complete the work. In addition there shall be added an amount to be agreed upon but not to exceed fifteen (15) percent of the actual cost of the WORK to cover the cost of general overhead and profit.

15 *TIME FOR COMPLETION AND LIQUIDATED DAMAGES*

15.1 The date of beginning and the time for completion of the WORK are essential conditions of the CONTRACT DOCUMENTS and the WORK embraced shall be commenced on a date specified in the NOTICE TO PROCEED.

15.2 The CONTRACTOR will proceed with the WORK at such rate of progress to insure full completion within the CONTRACT TIME. It is expressly understood and agreed, by and between the CONTRACTOR and the OWNER, that the CONTRACT TIME for the completion of the WORK described herein is a reasonable time, taking into consideration the average climatic and economic conditions and other factors prevailing in the locality of the WORK.

15.3 If the CONTRACTOR shall fail to complete the WORK within the CONTRACT TIME, or extension of time granted by the OWNER, then the CONTRACTOR will pay to the OWNER the amount for liquidated damages as specified in the BID for each calendar day that the CONTRACTOR shall be in default after the time stipulated in the CONTRACT DOCUMENTS.

15.4 The CONTRACTOR shall not be charged with liquidated damages or any excess cost when the delay in completion of the WORK is due to the following, and the CONTRACTOR has promptly given WRITTEN NOTICE of such delay to the OWNER or ENGINEER.

15.4.1 To any preference, priority or allocation

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order duly issued by the OWNER.

15.4.2 To unforeseeable causes beyond the control and without the fault or negligence of the CONTRACTOR, including but not restricted to, acts of God, or of the public enemy, acts of the OWNER, acts of another CONTRACTOR in the performance of a contract with the OWNER, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and abnormal and unforeseeable weather; and

15.4.3 To any delays of SUBCONTRACTORS occasioned by any of the causes specified in paragraphs 15.4.1 and 15.4.2 of this article.

16. *CORRECTION OF WORK*

16.1 The CONTRACTOR shall promptly remove from the premises all WORK rejected by the ENGINEER for failure to comply with the CONTRACT DOCUMENTS, whether incorporated in the construction or not, and the CONTRACTOR shall promptly replace and re-execute the WORK in accordance with the CONTRACT DOCUMENTS and without expense to the OWNER and shall bear the expense of making good all WORK of other CONTRACTORS destroyed or damaged by such removal or replacement.

16.2 All removal and replacement WORK shall be done at the CONTRACTOR'S expense. If the CONTRACTOR does not take action to remove such rejected WORK within ten (10) days after receipt of WRITTEN NOTICE, the OWNER may remove such WORK and store the materials at the expense of the CONTRACTOR.

17. *SUBSURFACE CONDITIONS*

17.1 The CONTRACTOR shall promptly, and before such conditions are disturbed, except in the event of an emergency, notify the OWNER by WRITTEN NOTICE of:

17.1.1 Subsurface or latent physical conditions at the site differing materially from those indicated in the CONTRACT DOCUMENTS; or

17.1.2 Unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in WORK of the character provided for in the CONTRACT DOCUMENTS.

17.2 The OWNER shall promptly investigate the conditions, and if he finds that such conditions do so materially differ and cause an increase or decrease in the cost of, or in the time required for, performance of the WORK, an equitable adjustment shall be made and the CONTRACT DOCUMENTS shall be modified by a CHANGE ORDER. Any claim of the CONTRACTOR for adjustment hereunder shall not be allowed unless he has given the required WRITTEN NOTICE; provided that the OWNER may, if he determines the facts so justify, consider and adjust any such claims asserted before the date of final payment.

18. *SUSPENSION OF WORK, TERMINATION AND DELAY*

18.1 The OWNER may suspend the WORK or any portion thereof for a period of not more than ninety days or such further time as agreed upon by the CONTRACTOR, by WRITTEN NOTICE to the CONTRACTOR and the ENGINEER which notice shall fix the date on which WORK shall be resumed. The CONTRACTOR will resume that WORK on the date so fixed. The CONTRACTOR will be allowed an increase in the CONTRACT PRICE or an extension of the CONTRACT TIME, or both, directly attributable to any suspension.

18.2 If the CONTRACTOR is adjudged a bankrupt or insolvent, or if he makes a general assignment for the benefit of his creditors, or if a trustee or receiver is appointed for the CONTRACTOR or for any of his property, or if he files a petition to take advantage of any debtor's act, or to reorganize under the bankruptcy or applicable laws, or if he repeatedly fails to supply sufficient skilled workmen or suitable materials or equipment, or if he repeatedly fails to make prompt payments to SUBCONTRACTORS or for labor, materials or equipment or if he disregards laws, ordinances, rules, regulations or orders of any public body having jurisdiction of the WORK or if he disregards the authority of the ENGINEER, or if he otherwise violates any provision of the CONTRACT DOCUMENTS, then the OWNER may, without prejudice to any other right or remedy and after giving the CONTRACTOR and his surety a minimum of ten (10) days from delivery of a WRITTEN NOTICE, terminate the services of the CONTRACTOR and take possession of the PROJECT and of all materials, equipment, tools, construction equipment and machinery thereon owned by the CONTRACTOR, and finish the WORK by whatever method he may deem expedient. In such case the CONTRACTOR shall not be entitled to receive any further payment until the WORK is finished. If the unpaid balance of the CONTRACT PRICE exceeds the direct and indirect costs of completing the PROJECT, including compensation for additional professional services, such excess SHALL BE PAID TO THE CONTRACTOR. If such costs exceed such unpaid balance, the CONTRACTOR will pay the difference to the OWNER. Such costs incurred by the OWNER will be determined by the ENGINEER and incorporated in a CHANGE ORDER.

18.3 Where the CONTRACTOR'S services have been so terminated by the OWNER, said termination shall not affect any right of the OWNER against the CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of monies by the OWNER due the CONTRACTOR will not release the CONTRACTOR from compliance with the CONTRACT DOCUMENTS.

18.4 After ten (10) days from delivery of a WRITTEN NOTICE to the CONTRACTOR and the ENGINEER, the OWNER may, without cause and without prejudice to any other right or remedy, elect to abandon the PROJECT and terminate the Contract. In such case, the CONTRACTOR shall be paid for all WORK executed and any expense sustained plus reasonable profit.

18.5 If, through no act or fault of the CONTRACTOR, the WORK is suspended for a period of more than ninety (90) days by the OWNER or under an order of court or other public authority, or the ENGINEER fails to act on any request for payment within thirty (30) days after it is submitted, or the OWNER fails to pay the CONTRACTOR substantially the sum approved by the ENGINEER or awarded by arbitrators within thirty (30) days of its approval and presentation, then the CONTRACTOR may, after ten (10) days from delivery of a WRITTEN NOTICE to the OWNER and the ENGINEER, terminate the CONTRACT and recover from the OWNER payment for all WORK exe-

cuted and all expenses sustained. In addition and in lieu of terminating the CONTRACT, if the ENGINEER has failed to act on a request for payment or if the OWNER has failed to make any payment as aforesaid, the CONTRACTOR may upon ten (10) days written notice to the OWNER and the ENGINEER stop the WORK until he has been paid all amounts then due, in which event and upon resumption of the WORK, CHANGE ORDERS shall be issued for adjusting the CONTRACT PRICE or extending the CONTRACT TIME or both to compensate for the costs and delays attributable to the stoppage of the WORK.

18.6 If the performance of all or any portion of the WORK is suspended, delayed, or interrupted as a result of a failure of the OWNER or ENGINEER to act within the time specified in the CONTRACT DOCUMENTS, or if no time is specified, within a reasonable time, an adjustment in the CONTRACT PRICE or an extension of the CONTRACT TIME, or both, shall be made by CHANGE ORDER to compensate the CONTRACTOR for the costs and delays necessarily caused by the failure of the OWNER or ENGINEER.

19. *PAYMENTS TO CONTRACTOR*

19.1 At least ten (10) days before each progress payment falls due (but not more often than once a month), the CONTRACTOR will submit to the ENGINEER a partial payment estimate filled out and signed by the CONTRACTOR covering the WORK performed during the period covered by the partial payment estimate and supported by such data as the ENGINEER may reasonably require. If payment is requested on the basis of materials and equipment not incorporated in the WORK but delivered and suitably stored at or near the site, the partial payment estimate shall also be accompanied by such supporting data, satisfactory to the OWNER, as will establish the OWNER's title to the material and equipment and protect his interest therein, including applicable insurance. The ENGINEER will, within ten (10) days after receipt of each partial payment estimate, either indicate in writing his approval of payment and present the partial payment estimate to the OWNER, or return the partial payment estimate to the CONTRACTOR indicating in writing his reasons for refusing to approve payment. In the latter case, the CONTRACTOR may make the necessary corrections and resubmit the partial payment estimate. The OWNER will, within ten (10) days of presentation to him of an approved partial payment estimate, pay the CONTRACTOR a progress payment on the basis of the approved partial payment estimate. The OWNER shall retain ten (10) percent of the amount of each payment until final completion and acceptance of all work covered by the CONTRACT DOCUMENTS. The OWNER at any time, however, after fifty (50) percent of the WORK has been completed, if he finds that satisfactory progress is being made, shall reduce retainage to five (5%) percent on the current and remaining estimates. When the WORK is substantially complete (operational or beneficial occupancy), the retained amount may be further reduced below five (5) percent to only that amount necessary to assure completion. On completion and acceptance of a part of the WORK on which the price is stated separately in the CONTRACT DOCUMENTS, payment may be made in full, including retained percentages, less authorized deductions.

19.2 The request for payment may also include an allowance for the cost of such major materials and equipment which are suitably stored either at or near the site.

19.3 Prior to SUBSTANTIAL COMPLETION, the OWNER, with the approval of the ENGINEER and with the concurrence of the CONTRACTOR, may use any completed or substantially completed portions of the WORK. Such use shall not constitute an acceptance of such portions of the WORK.

19.4 The OWNER shall have the right to enter the premises for the purpose of doing work not covered by the CONTRACT DOCUMENTS. This provision shall not be construed as relieving the CONTRACTOR of the sole responsibility for the care and protection of the WORK, or the restoration of any damaged WORK except such as may be caused by agents or employees of the OWNER.

19.5 Upon completion and acceptance of the WORK, the ENGINEER shall issue a certificate attached to the final payment request that the WORK has been accepted by him under the conditions of the CONTRACT DOCUMENTS. The entire balance found to be due the CONTRACTOR, including the retained percentages, but except such sums as may be lawfully retained by the OWNER, shall be paid to the CONTRACTOR within thirty (30) days of completion and acceptance of the WORK.

19.6 The CONTRACTOR will indemnify and save the OWNER or the OWNER'S agents harmless from all claims growing out of the lawful demands of SUBCONTRACTORS, laborers, workmen, mechanics, materialmen, and furnishers of machinery and parts thereof, equipment, tools, and all supplies, incurred in the furtherance of the performance of the WORK. The CONTRACTOR shall, at the OWNER'S request, furnish satisfactory evidence that all obligations of the nature designated above have been paid, discharged, or waived. If the CONTRACTOR fails to do so the OWNER may, after having notified the CONTRACTOR, either pay unpaid bills or withhold from the CONTRACTOR'S unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the CONTRACTOR shall be resumed, in accordance with the terms of the CONTRACT DOCUMENTS, but in no event shall the provisions of this sentence be construed to impose any obligations upon the OWNER to either the CONTRACTOR, his Surety, or any third party. In paying any unpaid bills of the CONTRACTOR, any payment so made by the OWNER shall be considered as a payment made under the CONTRACT DOCUMENTS by the OWNER to the CONTRACTOR and the OWNER shall not be liable to the CONTRACTOR for any such payments made in good faith.

19.7 If the OWNER fails to make payment thirty (30) days after approval by the ENGINEER, in addition to other remedies available to the CONTRACTOR, there shall be added to each such payment interest at the maximum legal rate commencing on the first day after said payment is due and continuing until the payment is received by the CONTRACTOR.

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20. *ACCEPTANCE OF FINAL PAYMENT AS RELEASE*

20.1 The acceptance by the CONTRACTOR of final payment shall be and shall operate as a release to the OWNER of all claims and all liability to the CONTRACTOR other than claims in stated amounts as may be specifically excepted by the CONTRACTOR for all things done or furnished in connection with this WORK and for every act and neglect of the OWNER and others relating to or arising out of this WORK. Any payment, however, final or otherwise, shall not release the CONTRACTOR or his sureties from any obligations under the CONTRACT DOCUMENTS or the Performance BOND and Payment BONDS.

21. *INSURANCE*

21.1 The CONTRACTOR shall purchase and maintain such insurance as will protect him from claims set forth below which may arise out of or result from the CONTRACTOR'S execution of the WORK, whether such execution be by himself or by any SUBCONTRACTOR or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

21.1.1 Claims under workmen's compensation, disability benefit and other similar employee benefit acts;

21.1.2 Claims for damages because of bodily injury, occupational sickness or disease, or death of his employees;

21.1.3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than his employees;

21.1.4 Claims for damages insured by usual personal injury liability coverage which are sustained (1) by any person as a result of an offense directly or indirectly related to the employment of such person by the CONTRACTOR, or (2) by any other person; and

21.1.5 Claims for damages because of injury to or destruction of tangible property, including loss of use resulting therefrom.

21.2 Certificates of Insurance acceptable to the OWNER shall be filed with the OWNER prior to commencement of the WORK. These Certificates shall contain a provision that coverages afforded under the policies will not be cancelled unless at least fifteen (15) days prior WRITTEN NOTICE has been given to the OWNER.

21.3 The CONTRACTOR shall procure and maintain, at his own expense, during the CONTRACT TIME, liability insurance as hereinafter specified:

21.3.1 CONTRACTOR'S General Public Liability and Property Damage Insurance including vehicle coverage issued to the CONTRACTOR and protecting him from all claims for personal injury, including death, and all claims for destruction of or damage to property, arising out of or in connection with any operations under the CONTRACT DOCUMENTS, whether such operations be by himself or by any SUBCONTRACTOR under him, or anyone directly or indirectly employed by the CONTRACTOR or by a SUBCONTRACTOR under him. Insurance shall be written with a limit of liability of not less than $500,000 for all damages arising out of bodily injury, including death, at any time resulting therefrom, sustained by any one person in any one accident; and a limit of liability of not less than $500,000 aggregate for any such damages sustained by two or more persons in any one accident. Insurance shall be written with a limit of liability of not less than $200,000 for all property damage sustained by any one person in any one accident; and a limit of liability of not less than $200,000 aggregate for any such damage sustained by two or more persons in any one accident.

21.3.2 The CONTRACTOR shall acquire and maintain, if applicable, Fire and Extended Coverage insurance upon the PROJECT to the full insurable value thereof for the benefit of the OWNER, the CONTRACTOR, and SUBCONTRACTORS as their interest may appear. This provision shall in no way release the CONTRACTOR or CONTRACTOR'S surety from obligations under the CONTRACT DOCUMENTS to fully complete the PROJECT.

21.4 The CONTRACTOR shall procure and maintain, at his own expense, during the CONTRACT TIME, in accordance with the provisions of the laws of the state in which the work is performed, Workmen's Compensation Insurance, including occupational disease provisions, for all of his employees at the site of the PROJECT and in case any work is sublet, the CONTRACTOR shall require such SUBCONTRACTOR similarly to provide Workmen's Compensation Insurance, including occupational disease provisions for all of the latter's employees unless such employees are covered by the protection afforded by the CONTRACTOR. In case any class of employees engaged in hazardous work under this contract at the site of the PROJECT is not protected under Workmen's Compensation statute, the CONTRACTOR shall provide, and shall cause each SUBCONTRACTOR to provide, adequate and suitable insurance for the protection of his employees not otherwise protected.

21.5 The CONTRACTOR shall secure, if applicable, "All Risk" type Builder's Risk Insurance for WORK to be performed. Unless specifically authorized by the OWNER, the amount of such insurance shall not be less than the CONTRACT PRICE totaled in the BID. The policy shall cover not less than the losses due to fire, explosion, hail, lightning, vandalism, malicious mischief, wind, collapse, riot, aircraft, and smoke during the CONTRACT TIME, and until the WORK is accepted by the OWNER. The policy shall name as the insured the CONTRACTOR, the ENGINEER, and the OWNER.

22. *CONTRACT SECURITY*

22.1 The CONTRACTOR shall, within ten (10) days after the receipt of the NOTICE OF AWARD, furnish the OWNER with a Performance Bond and a Payment Bond in penal sums equal to the amount of the CONTRACT PRICE, conditioned upon the performance by

the CONTRACTOR of all undertakings, covenants, terms, conditions and agreements of the CONTRACT DOCUMENTS, and upon the prompt payment by the CONTRACTOR to all persons supplying labor and materials in the prosecution of the WORK provided by the CONTRACT DOCUMENTS. Such BONDS shall be executed by the CONTRACTOR and a corporate bonding company licensed to transact such business in the state in which the WORK is to be performed and named on the current list of "Surety Companies Acceptable on Federal Bonds" as published in the Treasury Department Circular Number 570. The expense of these BONDS shall be borne by the CONTRACTOR. If at any time a surety on any such BOND is declared a bankrupt or loses its right to do business in the state in which the WORK is to be performed or is removed from the list of Surety Companies accepted on Federal BONDS, CONTRACTOR shall within ten (10) days after notice from the OWNER to do so, substitute an acceptable BOND (or BONDS) in such form and sum and signed by such other surety or sureties as may be satisfactory to the OWNER. The premiums on such BOND shall be paid by the CONTRACTOR. No further payments shall be deemed due nor shall be made until the new surety or sureties shall have furnished an acceptable BOND to the OWNER.

23. *ASSIGNMENTS*

23.1 Neither the CONTRACTOR nor the OWNER shall sell, transfer, assign or otherwise dispose of the Contract or any portion thereof, or of his right, title or interest therein, or his obligations thereunder, without written consent of the other party.

24. *INDEMNIFICATION*

24.1 The CONTRACTOR will indemnify and hold harmless the OWNER and the ENGINEER and their agents and employees from and against all claims, damages, losses and expenses including attorney's fees arising out of or resulting from the performance of the WORK, provided that any such claims, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property including the loss of use resulting therefrom; and is caused in whole or in part by any negligent or willful act or omission of the CONTRACTOR, and SUBCONTRACTOR, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable.

24.2 In any and all claims against the OWNER or the ENGINEER, or any of their agents or employees, by any employee of the CONTRACTOR, any SUBCONTRACTOR, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the CONTRACTOR or any SUBCONTRACTOR under workmen's compensation acts, disability benefit acts or other employee benefits acts.

24.3 The obligation of the CONTRACTOR under this paragraph shall not extend to the liability of the ENGINEER, his agents or employees arising out of the preparation or approval of maps, DRAWINGS, opinions, reports, surveys, CHANGE ORDERS, designs or SPECIFICATIONS.

25. *SEPARATE CONTRACTS*

25.1 The OWNER reserves the right to let other contracts in connection with this PROJECT. The CONTRACTOR shall afford other CONTRACTORS reasonable opportunity for the introduction and storage of their materials and the execution of their WORK, and shall properly connect and coordinate his WORK with theirs. If the proper execution or results of any part of the CONTRACTOR'S WORK depends upon the WORK of any other CONTRACTOR, the CONTRACTOR shall inspect and promptly report to the ENGINEER any defects in such WORK that render it unsuitable for such proper execution and results.

25.2 The OWNER may perform additional WORK related to the PROJECT by himself, or he may let other contracts containing provisions similar to these. The CONTRACTOR will afford the other CONTRACTORS who are parties to such Contracts (or the OWNER, if he is performing the additional WORK himself), reasonable opportunity for the introduction and storage of materials and equipment and the execution of WORK, and shall properly connect and coordinate his WORK with theirs.

25.3 If the performance of additional WORK by other CONTRACTORS or the OWNER is not noted in the CONTRACT DOCUMENTS prior to the execution of the CONTRACT, written notice thereof shall be given to the CONTRACTOR prior to starting any such additional WORK. If the CONTRACTOR believes that the performance of such additional WORK by the OWNER or others involves him in additional expense or entitles him to an extension of the CONTRACT TIME, he may make a claim therefor as provided in Sections 14 and 15.

26. *SUBCONTRACTING*

26.1 The CONTRACTOR may utilize the services of specialty SUBCONTRACTORS on those parts of the WORK which, under normal contracting practices, are performed by specialty SUBCONTRACTORS.

26.2 The CONTRACTOR shall not award WORK to SUBCONTRACTOR(s), in excess of fifty (50%) percent of the CONTRACT PRICE, without prior written approval of the OWNER.

26.3 The CONTRACTOR shall be fully responsible to the OWNER for the acts and omissions of his SUBCONTRACTORS, and of persons either directly or indirectly employed by them, as he is for the acts and omissions of persons directly employed by him.

26.4 The CONTRACTOR shall cause appropriate provisions to be inserted in all subcontracts relative to the WORK to bind SUBCONTRACTORS to the CONTRACTOR by the terms of the CONTRACT DOCUMENTS insofar as applicable to the WORK of SUBCONTRACTORS and to give the CONTRACTOR the same power as regards terminating any subcontract that the OWNER may exercise over the CONTRACTOR under any provision of the CONTRACT DOCUMENTS.

26.5 Nothing contained in this CONTRACT shall create any contractual relation between any SUBCONTRACTOR and the OWNER.

27. *ENGINEER'S AUTHORITY*

27.1 The ENGINEER shall act as the OWNER'S representative during the construction period. He shall decide questions which may arise as to quality and acceptability of materials furnished and WORK performed. He shall interpret the intent of the CONTRACT DOCUMENTS in a fair and unbiased manner. The

ENGINEER will make visits to the site and determine if the WORK is proceeding in accordance with the CONTRACT DOCUMENTS.

27.2 The CONTRACTOR will be held strictly to the intent of the CONTRACT DOCUMENTS in regard to the quality of materials, workmanship and execution of the WORK. Inspections may be made at the factory or fabrication plant of the source of material supply.

27.3 The ENGINEER will not be responsible for the construction means, controls, techniques, sequences, procedures, or construction safety.

27.4 The ENGINEER shall promptly make decisions relative to interpretation of the CONTRACT DOCUMENTS.

28. *LAND AND RIGHTS-OF-WAY*

28.1 Prior to issuance of NOTICE TO PROCEED, the OWNER shall obtain all land and rights-of-way necessary for carrying out and for the completion of the WORK to be performed pursuant to the CONTRACT DOCUMENTS, unless otherwise mutually agreed.

28.2 The OWNER shall provide to the CONTRACTOR information which delineates and describes the lands owned and rights-of-way acquired.

28.3 The CONTRACTOR shall provide at his own expense and without liability to the OWNER any additional land and access thereto that the CONTRACTOR may desire for temporary construction facilities, or for storage of materials.

29. *GUARANTY*

29.1 The CONTRACTOR shall guarantee all materials and equipment furnished and WORK performed for a period of one (1) year from the date of SUBSTANTIAL COMPLETION. The CONTRACTOR warrants and guarantees for a period of one (1) year from the date of SUBSTANTIAL COMPLETION of the system that the completed system is free from all defects due to faulty materials or workmanship and the CONTRACTOR shall promptly make such corrections as may be necessary by reason of such defects including the repairs of any damage to other parts of the system resulting from such defects. The OWNER will give notice of observed defects with reasonable promptness. In the event that the CONTRACTOR should fail to make such repairs, adjustments, or other WORK that may be made necessary by such defects, the OWNER may do so and charge the CONTRACTOR the cost thereby incurred. The Performance BOND shall remain in full force and effect through the guarantee period.

30. *ARBITRATION*

30.1 All claims, disputes and other matters in question arising out of, or relating to, the CONTRACT DOCUMENTS or the breach thereof, except for claims which have been waived by the making and acceptance of final payment as provided by Section 20, shall be decided by arbitration in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association. This agreement to arbitrate shall be specifically enforceable under the prevailing arbitration law. The award rendered by the arbitrators shall be final, and judgment may be entered upon it in any court having jurisdiction thereof.

30.2 Notice of the demand for arbitration shall be filed in writing with the other party to the CONTRACT DOCUMENTS and with the American Arbitration Association, and a copy shall be filed with the ENGINEER. Demand for arbitration shall in no event be made on any claim, dispute or other matter in question which would be barred by the applicable statute of limitations.

30.3 The CONTRACTOR will carry on the WORK and maintain the progress schedule during any arbitration proceedings, unless otherwise mutually agreed in writing.

31. *TAXES*

31.1 The CONTRACTOR will pay all sales, consumer, use and other similar taxes required by the law of the place where the WORK is performed.

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460
November 8, 1973

PROGRAM GUIDANCE MEMORANDUM
NO. PG-20

TO: All Regional Administrator
Attn: Director, Air and Water Programs Division

FROM: Harold P. Cahill, Jr.
Director, Municipal Waste Water Systems Division

SUBJECT: Adequacy of Treatment Certification

All EDA and HUD assisted projects must conform to the minimum treatment requirements required for EPA construction grant projects. On EDA and HUD projects that are presently served by primary treatment only, adequacy of treatment certification may be issued provided that the municipality obtains a NPDES Municipal permit, or an identification of permit discharge conditions, in accordance with Section 402 of the Act. The permit must contain a firm schedule for meeting the treatment requirements of Section 301(b)(1)(B) and (C).

This supersedes Program Memoranda No. 72-7 and No. 72-9.

SAMPLE CERTIFICATION

EXCESSIVE OR POSSIBLE EXCESSIVE INFILTRATION/INFLOW

It is hereby certified that the following project(s) is (are), in my professional judment, subject to excessive or possible excessive infiltration/inflow as defined in 40CFR 35.927. It is further certified that: (1) the treatment works for which this grant application is made will not be changed by any rehabilitation program and will be a component part of any rehabilitated system, (2) that the Grantee has assured that the sewer system evaluation will be completed, (3) that any resulting rehabilitation program will be conducted on a schedule consistent with the treatment works construction and satisfactory to the Regional Administrator, and (4) that I am authorized to make this certification on behalf of _____ (State Agency).

_____
Signed

_____
Title

_____
Date

SAMPLE CERTIFICATION

NON-EXCESSIVE INFILTRATION/INFLOW

It is hereby certified that the following project(s) is (are), in my professional judgment, not subject to excessive infiltration/inflow as defined in 40 CFR 35.927, and that I am authorized to make this certification on behalf of _____(State Agency).

_____
Signed

_____
Title

_____
Date

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460
February 7, 1974

OFFICE OF AIR
AND WATER PROGRAMS

PROGRAM GUIDANCE MEMORANDUM
NO. PG-24

TO: All Regional Administrators

FROM: Harold P. Cahill, Jr., Director
Municipal Construction Division H.P. Cahill Jr

SUBJECT: Sewer System Evaluation and Rehabilitation

Title II Regulations in final form were signed by the Administrator on February 4, 1974, and will be effective immediately upon publication in the Federal Register. The following basic changes were made to Section 35.927 to provide more flexibility to the Regional Administrators in program implementation and to provide for a period of transition.

A detailed infiltration/inflow analysis will not be required where it can reasonably be shown that the treatment works is not subject to exessive infiltration/inflow or will be component part of any system that is to be rehabilitated. Provision has been made for certification by the State agency that excessive infiltration/inflow does or does not exist.

The Regional Administrator will determine that excessive infiltration/inflow does not exist on the basis of State certification, if he finds that the State had adequately established the basis for its certification through submission of only the minimum information necessary to enable a judgment to be made. This could include a preliminary review by the applicant or State of, for example, such parameters as per capita design flow, ratio of flow to design flow, flow records or estimates and/or hydrological, geographical, and geological conditions.

Step 3 Grants

(1) When the State certification is not submitted as above, the Regional Administrator should make his determination on the basis of an infiltration/inflow analysis.

(2) In the event it is determined that the treatment works would be regarded in the absence of a program of correction as subject to excessive or possible excessive infiltration/inflow, a grant may be awarded provided that the treatment works for which grant application is made will not be changed by any subsequent rehabilitation program or will be a component part of any rehabilitated system as specified in section 35.927-5 provided that the grantee agrees to complete the sewer system evaluation and any resulting rehabilitation on an implementation schedule the State adopts subject to approval by the Regional Administrator which shall be inserted as a special condition in the Grant Agreement.

(3) For projects wherein in the opinion of the Regional Administrator excessive infiltration does not exist, the Step 3 Grant may be made based on State certification without requiring the sewer evaluation.

Attached are samples of acceptable certification forms for non-excessive, and excessive or possible excessive infiltration/inflow.

Step 2 Grants

For Step 2 projects where the preliminary engineering report includes all elements of the facilities plan except the sewer system evaluation, a grant may be awarded if the Regional Administrator determines on the basis of the State certification or the infiltration/inflow analysis that excessive infiltration/inflow does not exist. Step 2 Grants can also be made where the analysis indicates that excessive infiltration/inflow exists but the treatment works capacity would not be changed by any subsequent rehabilitation program, with the same grant condition as outlined above for Step 3 Grants.

Step 1 Grants

For Step 1, projects, a complete sewer system evaluation consisting of the infiltration/inflow analysis and, if required, the sewer system evaluation survey in accordance with section 35.927 is an essential element of the facilities plan except for projects certified by the State and determined by the Regional Administrator as not subject to excessive infiltration/inflow.

These changes are to be implemented immediately in review of grant applicants for Step 1, 2, and 3 Grants. Applicants that have initiated evaluations based on previous drafts of guidelines should be encouraged to complete the studies, but the scope of these evaluations may be adjusted in accordance with the revised section 35.927.

The course of action to be followed in correction of excessive infiltration/inflow may take into account, in addition to flow and related data, other considerations such as cost-effectiveness, the cost of substantial treatment works construction delay, the effects of plant bypassing and overloading, public health emergencies, and relevant social and environmental factors.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

March 1, 1974

PROGRAM GUIDANCE MEMORANDUM
NO. PG-25

SUBJECT: Flood Disaster Protection Act of 1973
(Public Law 93-234)

FROM: Harold P. Cahill, Jr., Director
Municipal Construction Division (AW-436) H. P. Cahill Jr.

Alexander J. Greene, Director
Grants Administration Division (PM-216) signed

TO: Regional Administrators

A new public law requiring flood insurance for any project involving acquisition or construction which receives Federal financial assistance was enacted on December 30, 1973. It is called the "flood Disaster Protection Act of 1973." This Act amends the National Flood Insurance Act of 1968.

Both Acts provide for low cost flood insurance for projects in flood prone areas through the means of a subsidy and require, as a condition precedent, the enactment by local jurisdictions of land use and control measures to guide the use of flood plains. The new Act is under the jurisdiction of the Department of Housing and Urban Development and takes effect on March 4, 1974, as to the need for flood insurance before grant assistance may be awarded.

The 1973 Act affects the EPA grant programs as follows:

(1) No grant assistance may be approved after March 4, 1974, for any project involving construction in a designated flood hazard area in which the Federal flood insurance is available unless the project (or those portions lying in such hazard area) is covered by flood insurance for its entire useful life in an amount at least equal to its eligible development or project cost or to the maximum limit of coverage made available, whichever is less. The present maximum limit for non-residential structures is $200,000 on the structure and $200,000 on contents. (The community, however, is

not required to participate in the program prior to July 1, 1975, and so long as it does not participate, there is no insurance requirement.)

(2) No grant assistance may be approved after July 1, 1975, for any project in a designated flood hazard area unless the community is then participating in the flood insurance program.

With regard to construction grants, no Step 2 or 3 award can be made after March 4, 1974, for any project in a designated area in which the insurance is presently available unless, as a condition of the grant, the grantee agrees to acquire and maintain the insurance as required by § 102(a) of the '73 Act.

Effective immediately, the following Grant Condition shall be included in any award of either Step 2 or Step 3 grants. Its purpose is to provide insurance for any project or any portion thereof which is to be located in a designated flood hazard area where Federal flood insurance is available at the date of the grant and is not exempt from the requirement of insurance by virtue of the exemption for State-owned property that is covered under an adequate State policy of self-insurance:

> The grantee agrees to acquire and maintain any flood insurance made available to it under the National Flood Insurance Act of 1968, as amended in an amount at least equal to the total eligible project costs or to the maximum limit of coverage made available under the National Flood Insurance Act of 1968, as amended, whichever is less for the entire useful life of the project. Provided that this condition shall not be applicable if, on the date of grant award, flood insurance was not available pursuant to the Flood Insurance Act of 1968, as amended, for property in the project location.

There are now approximately 2200 local jurisdictions to which Section 102(a) applies. A computer listing of these areas is attached. As this list is updated by the Department of Housing and Urban Development, the additional listing will be forwarded as soon as available.

Questions arising out of the application of the '73 Act to EPA grants should be directed to the Municipal Construction Division or the Grants Administration Division as appropriate.

Questions relating to insurability should be directed to the Federal Insurance Administration, Department of Housing and Urban Development, or to the appropriate servicing company offices, a list of which is also attached.

Attachments:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460 NOV 4 1974

Program Guidance Memorandum
PG-25A

Subject: Supplement to PG No. 25; Flood Disaster Protection Act of 1973 (PL 93-234)

From: Harold P. Cahill, Jr., Director, Municipal Construction Division (WH-447)

To: Regional Administrators
ATTN: Air and Water Program Directors

On July 17, 1974, the Department of Housing and Urban Development published guidelines for Federal agencies regarding the mandatory purchase of flood insurance. The HUD guidelines provide that if the total value of all insurable improvements or property is less than $10,000, flood insurance need not be required.

The grant conditions contained in PG No. 25, Subject: Flood Disaster Protection Act of 1973 (PL 93-234), pertaining to the flood insurance purchase requirement have accordingly been revised. The revised applicable condition below must be included in each grant award made, until the publication of the final general grant regulations in the Federal Register.

If any grantees with insurable improvements and property of less than $10,000 have been made subject to the earlier conditions, you may amend those grant agreements to substitute the applicable condition below.

CONSTRUCTION GRANT CONDITION (Step 3)

The grantee agrees to acquire and maintain any flood insurance made available to it under the National Flood Insurance Act of 1968, as amended. The insurance shall be in an amount at least equal to the total eligible project costs excluding cost of land and uninsurable improvements, or to the maximum limit of coverage made available under the National Flood Insurance Act of 1968, as amended, whichever is less, for the entire useful life of the project.

This condition shall not be applicable if, on the date of execution of the grant agreement by both parties flood insurance was not available pursuant to the Flood Insurance Act of 1968, as amended, for property in the project location. This condition shall not be applicable if the project location is outside the boundaries of a special flood hazard area delineated on a Flood Hazard Boundary Map or Flood Insurance Rate Map which has been issued by the Department of Housing and Urban Development, Federal Insurance Administration. This condition shall not be applicable if the total value of improvements insurable under the National Flood Insurance Act is less than $10,000.

Although the above conditions will be routinely added to every Step 3 award, the Department of Housing and Urban Development has interpreted the statute as providing insurance only for grant projects involving a new or reconstructed structure, i.e., a surface structure with four walls, a roof and a floor and the contents of a structure, but not to include any sewer lines or sub-surface structures.

Two copies of either the Flood Hazard Boundary Map or the Flood Insurance Rate Map, which are referred to in the grant conditions, will be forwarded to you in the near future by the Federal Insurance Administration, HUD, Washington, D. C. As the Flood Insurance Rate Maps become available, they will replace the Flood Hazard Boundary Maps and will be sent to you automatically.

Utilization of this condition is not required for Step 1 or Step 2 grant awards.

SUBJECT: Best Practicable Waste Treatment Technology

DATE: APR 10 1975

PROGRAM GUIDANCE MEMORANDUM PG-27A

FROM: Harold P. Cahill, Jr., Director
Municipal Construction Division (WH-447)

TO: All Regional Administrators
Attn: Water Programs Personnel

On March 26, 1974, Program Guidance Memorandum (PG-27) authorized that cost-effective projects which meet the requirements contained in the proposed "Alternative Waste Management Techniques for Best Practicable Treatment" can be approved for grants from FY 1975 or later funds. In consideration of comments received during the review period, the Working Group has agreed on certain modifications to the requirements as originally proposed. The principal change is to the land application requirements. The Regional Administrator is given more discretion in making determinations pertaining to land application systems in order to account for localized conditions. However, the basic concept of protecting the groundwater to the levels required for public drinking water supplies is preserved. The final document will be promulgated shortly. Prior to that time the revised requirements, as summarized below, shall be used. (This replaces PG-27 dated March 26, 1974.)

(a) Alternatives Employing Treatment and Discharge into Navigable Waters:

Publicly owned treatment works employing treatment and discharge into navigable waters shall, as a minimum, achieve the degree of treatment attainable by the application of secondary treatment as defined in 40 CFR 133. Such works shall provide additional treatment or include the use of other waste management techniques, when factors such as water quality standards for the affected navigable waters or availability of cost-effective technology warrant the imposition of standards more stringent than secondary treatment.

(b) Alternatives Employing Land Application Techniques and Land Utilization Practices.

Publicly owned treatment works employing land application techniques and land utilization practices which result in a discharge to navigable waters shall meet the criteria for treatment and discharge under paragraph (a) above.

The groundwater resulting from the land application of wastewater shall meet the following criteria:

Case I: The groundwater can potentially be used for drinking water supply.

(1) The standards for chemical quality and pesticides specified in the EPA Manual for Evaluating Public Drinking Water Supplies for drinking water supply sources (copy attached) should not be exceeded except as indicated below. Any chemical or pesticides standards for drinking water supply sources hereafter issued by EPA shall automatically apply in lieu of the standards in the EPA Manual for Evaluating Public Drinking Water Supplies.

(2) If the existing concentration of a parameter exceeds the standards for chemical quality or pesticides, there should not be an increase in the concentration of that parameter due to land application of wastewater.

Case II: The groundwater is used for drinking water supply.

(1) The criteria for Case I should be met.

(2) The bacteriological standards for drinking water supply sources specified in the EPA Manual for Evaluating Drinking Water Supplies should not be exceeded. Any chemical, pesticides or bacteriological standards for drinking water supply sources hereafter issued by EPA shall automatically apply in lieu of the standards in the EPA Manual for Evaluating Public Drinking Water Supplies.

Case III: Uses other than drinking water supply.

Groundwater criteria should be established by the Regional Administrator based on the present and potential use of the groundwater.

The Regional Administrator, in conjunction with the appropriate State officials and the grantee, shall determine on a site-by-site basis the areas in the vicinity of a specific land application site where the criteria in Cases I, II and III shall apply. Specifically determined shall be the monitoring requirements appropriate for the project site. This determination shall be made with the objective of protecting the groundwater for use as a drinking water supply or other designated uses as appropriate and preventing irrevocable damage to groundwater.

(c) Alternatives Employing Reuse:

The total quantity of any pollutant in the effluent from a reuse project which is directly attributable to the effluent from a publicly owned treatment works shall not exceed that which would have been allowed under paragraphs (a) and (b) above.

B. WATER TREATMENT REQUIREMENTS*

1. General Requirements

The water quality requirements of the PHS Drinking Water Standards are minimum requirements, and good quality water should have physical and chemical characteristics considerably better than the limiting values established in the PHS Drinking Water Standards (Sections 4.2, 5.1, 5.2, 6.1, and 6.2). For example, water with turbidity of 5 units and a color of 15 units may be acceptable, but in a coagulated, filtered water such values could indicate serious malfunctioning of the purification process. (The PHS Drinking Water Standards are being revised currently, and will contain a recommendation that the turbidity standard be reduced to 1 turbidity unit. This and other revisions of the Drinking Water Standards, proposed at the time of this printing, are shown on the following pages.) Similarly, increased concentrations of copper and iron could indicate a corrosiveness that would be objectionable to consumers, even though the concentrations of the metals did not exceed recommended limits. In well water an increase in chlorides over the normal amount found in ground waters in the area may be the first indication of pollution.

The type of treatment required depends on the characteristics of the watershed, the raw water quality, and the desired finished water quality. If pollution of the source water is increasing, plant facilities, which were adequate for treatment of a nonpolluted water, may become inadequate. The production of water that is free from pathogenic organisms, aesthetically satisfactory to the senses, and reasonably acceptable chemically becomes increasingly difficult when the raw water has a high and varying chlorine demand, contains large numbers of coliform bacteria, or contains high concentrations of dissolved solids, toxic substances, or taste and odor producing substances.

* "Manual For Evaluating Public Drinking Water Supplies"
4 U.S. Environmental Protection Agency, 1971, pp 4 - 12

When evaluating the ability of a water supply system to constantly produce a safe and satisfactory water, these factors should be considered:

(a) the quality of water produced at times of unusual stress, such as during heavy run-offs, periods of drought, or periods of excessive demand as shown in the records;

(b) the quality of the raw and finished waters, as determined by laboratory data and sanitary surveys, and any trends in improvement or deterioration;

(c) the purification processes, including the facilities used to apply disinfectants at various locations in the treatment process, and their capacities compared with the capacities considered necessary to meet maximum anticipated requirements;

(d) the treatment processes used and their reliability in changing raw water characteristics to produce a finished water that continuously meets the PHS Drinking Water Standards;

(e) the minimum residual chlorine concentration in the plant effluent water, when chlorine is used, together with the time that this or greater chlorine levels were maintained;

(f) the qualifications of the operators and laboratory personnel, as indicated by appropriate training, or certification, or both; and

(g) the laboratory facilities and analytical procedures, frequency and extent of their use, and application of the data to operational control.

2. Extent of Treatment

The Public Health Service recommends that all municipal water supplies, whether they be ground water or surface water, receive treatment by disinfection regardless of the quality of the water. The benefits from the added protection provided by disinfection far outweigh the increased cost and the added maintenance incurred by the water utility. When coliform density is used as one criterion for judging treat-

ment requirements, raw waters can be divided into three groups: clean, clear, and polluted waters. The coliform densities of the raw waters can be expressed in terms of the most probable number (MPN) from the multiple-tube fermentation technique, or actual coliform counts determined by the membrane filter (MF) technique.

The requirements are given for three groups of water: those usable without treatment, those needing disinfection only, and those needing complete treatment. The quality requirements listed below are the recommended Technical Review Committee Tentative Standards, that are proposed as revisions to the current PHS Drinking Water Standards. They differ from the current PHS Standards in that some standards have been added, some have been deleted, and others modified.

Group I. Requirements for Water Usable Without Treatment[1]

A. Bacteriological Quality: The coliform standard remains the same as the PHS Drinking Water Standards, 1962, plus the inclusion of a standard plate count limit of 500 organisms per ml.

B. Physical Quality: should meet the following standards.

Color	15
Turbidity	1 turbidity unit
Taste and odor	2 threshold odor number

[1]Recommended Technical Review Committee Tentative Standards.

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C. Chemical Quality: chemical concentrations should not exceed the following:

Substance	Maximum Allowable Limits concentration - mg/liter
Arsenic (As)	0.1
Barium (Ba)	1
Cadmium (Cd)	0.010
Chloride (Cl)	250
Chromium (Cr)	0.05
Copper (Cu)	1
Cyanide (CN)	0.2
Fluoride (F)[a]	
50.0-53.7°F	1.8
53.8-58.3	1.7
58.4-63.8	1.5
63.9-70.6	1.4
70.7-79.2	1.2
79.3-90.5	1.1
Foaming Agents as Methylene Blue Active Substances	0.5
Iron (Fe)	0.3
Lead (Pb)	0.05
Manganese (Mn)	0.05
Mercury (Hg)	0.005
Nitrate Nitrogen	10
Organics - Carbon Absorbable	
CCE	0.3
CAE	1.5
Selenium (Se)	0.01
Silver (Ag)	0.05
Sodium (Na)	270
Sulfate (SO_4)	250
Zinc (Zn)	5

[a] Annual average of maximum daily air temperature.

Substances not included in the above table that may have deleterious physiological effect or that may be excessively corrosive to the water supply system should not be permitted in the raw water supply.

D. Radioactivity: should comply with the following certification limits:

ALPHA ACTIVITY

Gross Alpha Activity - 1 pCi/l, or Radium 226 - 1 pCi/l when the gross activity is greater than 1 pCi/l but less than 10 pCi/l.

BETA ACTIVITY

Gross Beta Activity - 10pCi/l, or Strontium 90 - 10 pCi/l when gross beta activity, after the Potassium 40 activity has been subtracted, is greater than 10 pCi/l but less than 100 pCi/l.

The recommended technical task force tentative standards provide for provisional arrangements to be made by further community surveillance of radioactivity to modify the above listed certification limits.

E. Pesticides: should not exceed the following limits:

Pesticide	Maximum permissible concentration, mg/l
Aldrin	0.01
Aldrin and Dieldrin	0.01
Dieldrin	0.01
Chlordane	0.01
DDT	0.1
Endrin	0.003
Heptachlor	0.02
Heptachlor epoxide	0.02
Heptachlor and Heptachlor epoxide	0.02
Lindane	0.1
Methoxychlor	0.5
Organophosphate and carbamate insecticides[a]	0.1
Toxaphene	0.1
	1
2,4,5-T	0.005
2,4,5-TP	0.2

[a] Expressed in terms of parathion equivalent cholinesterase inhibition.

Group II. Requirements for Water Needing Disinfection Only

A. Physical, Chemical, Radioactivity, and Pesticide Requirements: the requirements as shown for untreated raw ground water (Groups I.B, I.C, I.D, and I.E) should be met. If the water does not consistently meet all these requirements, consideration should be given to providing additional treatment during periodic decreases in quality that result from high turbidity, tastes, etc.

B. Bacteriological Quality:

1. Fecal Coliform Density: If fecal coliform density is measured, the total coliform density discussed below may be exceeded, but fecal coliform density should not, in any case, exceed 20 per 100 milliliters as measured by a monthly arithmetic mean. When the fecal coliform vs. total coliform criterion is used for Group II water, the fecal coliform count should never exceed the 20 per 100 milliliters monthly arithmetic mean. This fecal coliform standard only applies when it is being measured on a regular basis.

2. Total Coliform Density: Less than 100 per 100 milliliters as measured by a monthly arithmetic mean.

Group III. Requirements for Water Needing Treatment by Complete Conventional Means Including Coagulation, Sedimentation, Rapid Granular Filtration, and Disinfection (Pre and Post)

A. Bacteriological Quality:

1. Fecal Coliform Density: If fecal coliform density is measured, the total coliform density discussed below may be exceeded, but fecal coliform should not exceed 2,000 per 100 milliliters as measured by a monthly geometric mean.

2. Total Coliform Density: Less than 20,000 per 100 milliliters as measured by a monthly geometric mean.

The same rationale applies here as in the Group II waters concerning the use of the fecal coliform vs. total coliform criterion. In no case should the fecal coliform count exceed the 2,000 per 100 milliliters monthly geometric mean.

The arithmetic mean is used with the Group II waters because the bacteriological data from these waters will be of lesser magnitude than that from the Group III waters; this difference in magnitude between the monthly means of the Group II and Group III waters is best reflected by the arithmetic and geometric means, respectively.

These bacteriological limits may possibly be exceeded if treatment (in addition to coagulation, sedimentation, rapid granular filtration, and disinfection) is provided and is shown to be doing a satisfactory job of providing health protection.

B. Physical Quality: Elements of color, odor, and turbidity contribute significantly to the treatability and potability of the water.

1. Color: A limit of 75 color units should not be exceeded. This limit applies only to nonindustrial sources; industrial concentrations of color should be handled on a case-by-case basis and should not exceed levels that are treatable by complete conventional means.
2. Odor: A limit of 5 threshold numbers should not be exceeded.
3. Turbidity: The limits for turbidity are variable. Factors of nature, size, and electrical charge for the different particles causing turbidity require a variable limit. Turbidity should remain within a range that is readily treatable by complete con-

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ventional means. It should not overload the water treatment works, and it should not change rapidly either in nature or in concentration when such rapid shifts would upset normal treatment operations.

C. Chemical Quality: Since there is little reduction in chemical constituents with complete conventional treatment, raw water should meet the limits given for Group I.C.

D. Radioactivity: Should comply with Certification Limits given in Group I.D.

E. Pesticides: Should comply with requirements for pesticides as shown for untreated raw ground water in Group I.E.

Infectious material, the increasing diversity of chemical pollutants found in Group III raw waters, and the many different situations encountered in regional and local problems make it impractical to prescribe a limited selection of facilities and processes that can effectively handle all problems presented by raw water and its sources. Future improvements in treatment technology cannot be reasonably assisted or regulated by requiring the fixed process steps considered good for today's technology. Table 1 describes some factors that increase the difficulty in securing disinfection, e.g., adequate disinfection with halogens depends on temperature, pH, contact time, and concentration of disinfectant.

Types of disinfection other than chlorination must be demonstrated to function effectively in all compositions of water likely to be encountered from the source used. If a distribution system is of any considerable length, the disinfection method should provide a residual protection that can be easily measured.

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Table 1. CONDITIONS CREATING DIFFICULTIES AT THE WATER PLANT AND IN THE WATER MAINS

Bacterial and biological conditions	Chemical conditions	Physical and operational conditions
Increasing numbers of coliforms	Ammonia nitrogen	Low temperature
Biological pollution, i.e., algal or fungal metabolic products that effect chlorine demand	Toxic materials or taste and odor requiring removal	Extended distribution systems
Filter clogging organisms that effect chlorine demand	Color or organic dispersing agents (anticoagulants), lignin compounds	Highly variable water quality
	Chlorine demand	Rapid variation in flow and turbidity of surface water resource
	Iron and manganese	Tidal effects
	High organic content	
	High or organic content	
	High or fluctuating pH	

Where water sources show continuing quality deterioration or the quality of water available is not adequate for future demand, the water purveyor should be examining alternate or auxiliary sources of supply and should have positive plans to procure adequate facilities and sources.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

SUBJECT: Approval of Reimbursement Projects Not Previously Serviced by EPA

DATE: APR 17 1974
PROGRAM GUIDANCE MEMORANDUM PG-30

FROM: John T. Rhett
Deputy Assistant Administrator for Water Operations (AW-446)

TO: Regional Administrators
ATTN: Air and Water Program Directors

This is in response to a need for more specific guidelines required to properly review and process applications for reimbursement under Section 206 which were not previously serviced by EPA. The Office of General Counsel has provided us with an opinion regarding the legal issues involved and the mandatory requirements which applicants must meet. It is attached for your information and should be reviewed before undertaking action on the "woodwork" projects.

So that the review can be conducted using itemized specific requirements, we are supplementing the legal opinion with a checklist of applicable provisions. These provisions represent minimum compliance requirements to be met by the previously unserviced projects prior to approval for award.

Initially it is necessary that certain actions on each of the projects be fulfilled by the State. They are as follows:

1. Provide a copy of the State Permit, or provide certification that the project was designed and built in accordance with regulations and requirements of the State Agency.

2. Certify that the facility, upon completion, was operated consistent with State requirements. (If the facility is not currently being operated, an explanation of the mitigating circumstances must be provided.)

3. Provide a statement to the effect that the project was constructed for benefit of public at large. The statement must address the public benefits derived by project construction; the relation of the ultimate cost of constructing and maintaining the works to the public interest; and the public necessity of the treatment works.

EPA Form 1320-6 (Rev. 6-72)

Upon receipt of the above, the remainder of the review will be based on information submitted by the applicant. Since it is likely that all of the needed items of data will not be on hand with the applicant's original application, it will be necessary to request them in writing. In that letter, it is important to remind the applicant of the fact that eligibility for reimbursement is limited solely to treatment works as defined in Section 8 of the Federal Water Pollution Control Act prior to the October 18, 1972 Amendments thereto, i.e., sewage treatment plants including additions, modifications, alterations, etc., and appurtenant intercepting and outfall sewers, force mains and pump stations. Collection sewers, etc., are not eligible for reimbursement grant consideration.

In addition to the fact that the municipality's application must have been on file in the regional office by January 31, 1974, with the elements of data required in the published regulations, the following items are also needed to determine its eligibility.

1. Certification that standard procurement procedures were followed--with all contracts awarded to the lowest responsive bidder(s); and that proof of advertising, bid tabs, etc., will be available upon audit. Certification that all costs applied for have been paid and that evidence of such payment will be available upon audit.

2. Certification that the contractors paid the same general level of wages to their employees as was paid to those similarly situated at the time.

3. A resolution from the applicant's governing body authorizing a representative, by name and title, to execute and file all documents regarding the project.

4. Evidence that the project was approved by the appropriate planning agency. (Applicable to projects applying for the 10% planning bonus.)

5. A true copy of each executed contract document.

6. One copy each of the approved final construction estimate and bills submitted to the municipality for engineering services rendered. Requests for grant assistance for legal costs, bond costs, administrative costs, etc., should be discouraged.

However, where applicant desires such grant support, bills pertaining to such costs must be furnished. If the construction estimate does not include signatures of the consulting engineer, the contractor, and the municipality, appropriate documentation substantiating the concurrence of the three parties should accompany the construction estimate.

7. Compliance Report Form (158-R0034); EPA Form No. 4700-4--to indicate nondiscrimination.

8. In addition, the grantee must be notified that, should his project be otherwise approved for reimbursement, in accepting the grant he must also accept the condition to acquire and maintain flood insurance where applicable and available. (See page 11 for language of condition.)

9. If project is still under construction, it will be necessary to assure compliance with the additional requirements of the General Counsel memorandum:

   a. Relocation Assistance - Page 8

   b. E.O. 11246 (equal employment opportunity)- page 9

   c. Copeland Act; for contracts and subcontracts awarded subsequent to the date of the reimbursement grant award. Pages 11 & 12

This memorandum has been concurred in by the EPA Office of Audit.

Attachment

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

SUBJECT: Federal Requirements Applicable to the Award of Grant Assistance under Sec. 206 of the 1972 FWPCA Amendments (33 U.S.C. 1286).

DATE: March 28, 1974

FROM: Joseph M. Zorc
Assistant General Counsel, Grants (EG-334)

Joseph M. Zorc

TO: John T. Rhett
Deputy Assistant Administrator
for Water Program Operations (AW-446)

Section 206(a) of the 1972 FWPCA Amendments (33 U.S.C. 1286), as amended on December 28, 1973 by Public Law 93-207 (87 Stat. 906) authorizes reimbursement grants for what may be analyzed as two categories of projects. In the first category are projects previously awarded grant assistance under the former FWPCA, and thereby received previously-required Federal approval, and projects which, while not awarded grant assistance under the former FWPCA, nevertheless were submitted for Federal approval, in order to assure compliance with applicable Federal requirements and to better assure future eligibility for Federal reimbursement; in both cases, projects were reviewed to determine compliance with then-applicable Federal requirements. In the second category are projects which have received no grant assistance under the former FWPCA and were not submitted for review with respect to Federal requirements prior to application for assistance under Sec. 206 of the 1972 FWPCA Amendments.

You have requested us to advise you as to the Federal statutory requirements applicable to the award of assistance to these projects, particularly with reference to the second category mentioned above and the requirement of Sec. 206 that the project must be determined to meet "the requirements of section 8 of this Act in effect at the time of the initiation of construction." We are herewith furnishing our analysis of what we believe to be the applicable Federal requirements as follows: (1) the requirements of Section 8 of the former FWPCA; (2) other requirements of the 1972 FWPCA Amendments; and (3) other Federal requirements.

(A) Requirements of Section 8

Section 206(a) authorizes reimbursement assistance for each project

EPA Form 1320-6 (Rev. 6-72)

> ". . . on which construction was initiated after June 30, 1966, but before July 1, 1972, which was approved by the appropriate State water pollution control agency and which the Administrator finds meets the requirements of section 8 of this Act in effect at the time of the initiation of construction . . . ."

For your convenient reference, there is reproduced as an attachment to this memorandum, those statutory provisions which were in effect after June 30, 1966, and before July 1, 1972, except for the several technical amendments which extended the authorization provision of section 8(d) beyond June 30, 1971, pending enactment of the 1972 FWPCA Amendments (P.L. 92-500).

In summary, we have found that there are no differences during this period in the substantive provisions of Section 8 which are relevant to Sec. 206 project review. These requirements are discussed in some detail below.

We have also noted, at p. 33 of the Senate Report which accompanied S. 2770 (S. Rep. 92-414, 92d Cong., 1st Sess.) the statement of intent that EPA must determine that each project for which assistance is requested under Sec. 206 ". . . was designed and constructed in accordance with the requirements of the Act, and regulations thereunder, in effect at the time that construction was initiated." (emphasis added). We believe that the prior regulations are applicable, to the extent that they reflect an interpretation of statutory requirements which are otherwise applicable for the purposes of Sec. 206 review. We do not believe that additional administrative requirements set forth in prior regulations must be made applicable -- for example, the industrial cost recovery requirement that related to the non-Federal share of project costs, which was published at 35 F.R. 10757 on July 2, 1970, and codified at 18 CFR §601.34 (January 1, 1971 ed.). Inasmuch as the Section 8 regulations published on June 9, 1972, at 37 F.R. 11650, and codified at 40 CFR §§35.800 et seq. (July 1, 1973 ed.) constituted principally a recodification of the Sec. 8 regulations occasioned by the transfer of the regulations from Title 18 to Title 40 of the Code of Federal Regulations, we would suggest that these regulations be utilized to the extent relevant for Sec. 206 project review.

1. Section 8(b)(1)(first phrase): requires that the project must have been approved by the appropriate State water pollution control agency. This provision must be met for all reimbursement grants. We suggest that this requirement be met through certification by the state agency if a copy of the state agency approval cannot be furnished by the applicant. The requirement for prior Federal approval is overriden by Sec. 206, which authorizes reimbursement for projects for which prior Federal approval or assistance has has not been obtained.

2. Section 8(b)(1)(second phrase): requires the project to be included in any "comprehensive program" developed pursuant to Section 3(a) of the Act. This does not refer to "comprehensive plans" under Section 3(c) (support for this can be found not only in the semantics of Section 8, but by reference to Sections 2 and 6(b)(2) of P.L. 660, July 9, 1956, which set forth the identical requirement before Section 3(c) was added by amendment). Similarly, the provision does not refer to State programs developed pursuant to Section 7 of the Act, which are addressed in Section 8(b)(1)(5), discussed below. Very little of the planning contemplated by the subject provision was completed. Compliance with this requirement can be effected by relatively simple intra-agency review to determine whether the project is consistent with §3(a) program requirements, if any, in effect at the time of project initiation.

3. Section 8(b)(1)(2): sets forth the former basic 30% Federal participation limitation. This has no bearing on Sec. 206 project review of reimbursement grant applications, since Sec. 206 authorizes a higher level of Federal assistance (50/55%).

4. Section 8(b)(1)(3): requires each grantee to agree to pay the non-Federal share of the project. We suggest that this requirement can be met either by a statement from the applicant, or other adequate evidence of payment of project costs, in cases where construction has been completed. If construction has not been completed, payment may not be made for the incomplete work pursuant to Sec. 206, and the grantee need only demonstrate that it has made adequate provision to pay its remaining costs.

5. Section 8(b)(1)(4): requires that the grantee make ". . . provision satisfactory to the [Administrator, EPA] for assuring proper and efficient operation and maintenance of the treatment works . . ." after its completion. For both completed and uncompleted projects, the Agency must assure

provision by the grantee of proper operation and maintenance. One means of accomplishing this would be by means of State assurance that it has found appropriate provision has been made for O&M by the grantee.

6. Section 8(b)(1)(5): requires that the project be "in conformity with" the State water pollution control program submitted pursuant to Section 7 of the former FWPCA, and also requires that the project be ". . . certified by the appropriate State water pollution control agency as entitled to priority over other eligible projects . . . ." The former limitation may be met by a State assurance that the project was, at time of initiation of construction, not inconsistent with the State's Section 7 program. As regards the latter limitation, certification of priority for reimbursement projects would be meaningless and, in fact, violative of the intent of P.L. 93-207; therefore, EPA review need not consider this element.

7. Section 8(b)(1)(6): sets forth the basis of increase in Federal participation to 40% of costs, and has no bearing on Sec. 206 project review of reimbursement grant applications, since Sec. 206 authorizes a higher level of Federal assistance (50/55%).

8. Section 8(b)(1)(7): 50% eligibility (see 3 and 7 above). Note that the State's "agreement to pay" is not required for reimbursement under Section 206.

9. Section 8(c)(first sentence): requires the Administrator to determine for each project the public benefits to be derived therefrom; the propriety of Federal aid to the project; the cost-benefit factor; and the adequacy of provisions made by the grant applicant for proper and efficient post-construction operation and maintenance. Assurance from the State agency would provide a sufficient basis for compliance with this requirement (see also 5 above).

10. Section 8(c)(remainder): concerns allotment formulae, reallotment procedures, and reimbursement under Section 8. This provision has no bearing on project review of reimbursement grant applications under §206.

11. Section 8(d): an authorization of appropriations, having no bearing on project review.

12. Section 8(e): this provision contains a definition of construction which has been carried forward verbatim into 40 CFR 35.860. This definition of construction is applicable to all reimbursement projects under Section 206(a). We are aware that Section 212(1) of the Amendments contains a much broader definition of construction which, according to that section, is for application to all Title II. This provision was so interpreted in floor comments of former Congresswoman Bella Abzug (see A Legislative History of the Water Pollution Control Act Amendments of 1972, 93d Cong., 1st Sess., No. 93-1, p. 372 (hereinafter "Legislative History"). Nevertheless, we believe that the definition of construction contained in Section 8 is controlling. In principles of statutory construction, the specific provision takes preference over the general; Section 206(a) specifically directs one to Section 8 of the Act. Section 212(1) clearly was designed for different purposes, namely, for correlation with the "segmented" construction approach Congress promoted (see Legislative History, p. 294). Legislative history of the Act indicates that Section 206 was intended to be remedial in nature, to correct the inequality which was found between projects funded on different bases. All projects during the period in question - 6/30/66 - 7/1/72 - were guided by the definition of construction in Section 8, and a gross broadening of the scope of reimbursement projects - which would result from adopting the new definition of construction - would appear to be markedly preferential rather than remedial. Neither the statute nor its legislative history indicates that Congress intended for reimbursement projects to suddenly obtain such status. In summary, we believe that the broader definition of construction in the 1972 FWPCA Amendments applies solely to new construction funded under Sec. 201 of the Act, and that the former definition set forth in 40 CFR 35.860 and Section 8(e) of the prior FWPCA is applicable to Sec. 206 assistance.

13. Section 8(f): sets forth the requirements for an increased grant for urban planning. Section 206(a) provides for reimbursement up to 55% of project costs ". . . where the Administrator also determines that such treatment works was constructed in conformity with a comprehensive metropolitan treatment plan as described in Section 8(f) . . . as in effect immediately prior to the date of enactment of the [Amendments] . . . ." As we understand it, arrangements presently exist (including cooperative arrangements with HUD) which will facilitate review for this increased benefit. The same procedures should be observed as have been followed under Section 8.

14. Section 8(g): Davis-Bacon Act requirements. Provides that the Administrator shall ". . . take such action as may be necessary to insure that all laborers and mechanics employed by contractors or subcontractors on projects for which grants are made under this section . . ." shall be paid at least prevailing wage rates. The Secretary of Labor establishes the rates, pursuant to 40 USC 276a et seq., the so-called Davis-Bacon Act. We are informed that the Department of Labor has advised the Agency informally that it will not be feasible to determine prevailing wage rates on "old"work. It appears clear that contracts (or subcontracts) awarded after the date of reimbursement grant award must conform to the requirements of the law. For earlier awards, the agency will generally be unable to determine the prevailing rate; even if the rate was determined, enforcing compliance with the rate would be difficult. We do not believe that this very practical inability to determine retrospective compliance with Section 8(g) should be permitted to slow the reimbursement program; neither do we believe that Congress intended such a result. A distinction may be drawn between the fundamental purpose of the Davis-Bacon Act - which case law holds to be protection of employees from substandard wages - and the method of achieving that purpose, which was to direct the Secretary of Labor to determine minimum wages for a project based on prevailing rates in the locality. It will generally be impossible to implement the Act's purpose by the Congressionally-selected method; we do not, however, believe this gives the agency authority to dismiss any attempt at achieving the purpose of the Act. We believe that wherever possible, the agency should seek to obtain available evidence regarding whether the grantee's contractors paid the same general level of wages to their employees as was paid to those similarly situated at the time. A written affirmation to that effect, obtained from the grantee and accompanying the grant application, would generally be sufficient to meet the purpose of the Act, given the unusual circumstances.

(B) Other Requirements of the 1972 FWPCA Amendments

There are several requirements in the 1972 FWPCA Amendments, as amended, which are applicable. We note, initially, however, that the requirements of Sec. 201(g) for the application of best practicable waste treatment technology, for the study of alternative waste management techniques, for the application of technology for the reclaiming or recycling of water or otherwise eliminate the discharge of pollutants, and for infiltration analysis, while applicable to assistance under Sec. 201, are not applicable to Sec. 206 grant assistance. The requirements of Section 204 are similarly inapplicable.

1. Section 501(a): issuance of regulations. The regulations promulgated on January 29, 1974 (39 F.R. 3677) provide, at 40 CFR §35.865(b) that "The applicant must furnish such other information as may be required for determination of entitlement or quantum under this Subpart. This affords the basis for obtaining documentation or information required to be furnished.

2. Section 501(c): grantee records. Pursuant to this provision, the grantee is obligated to maintain and furnish records adequate to establish eligibility and prove quantum with respect to a Sec. 206 claim for reimbursement. As an alternative to requiring copies of relevant documents (the construction contract, for example), it would be sufficient to require that the grantee make such records available upon audit; see 4. below.

3. Section 501(d): maintenance of records for audit and examination by EPA or GAO. This pertains to the period of claims processing, and three years after final payment; see Article 2 of the EPA General Grant Conditions, Appendix A to Subchapter B of Title 40 of the Code of Federal Regulations.

4. Section 3 of PL 93-207: audit before final payment. This statutory provision permits interim payments to be made on Sec. 206 claims, but also requires, in conjunction with the Sec. 206 payment mechanism, that an audit be accomplished for each project prior to the final Sec. 206 payment.

5. Section 2 of PL 93-207: statutory limitations date for presentation of Sec. 206 claims. The grant file must contain or refer to adequate evidence of receipt of the Sec. 206 claim on or before January 31, 1974.

(C) Other Federal Requirements

In addition to the requirements of Section 8 and of the 1972 FWPCA Amendments, there are other requirements applicable to all grant awards, by virtue of other legislation and collateral requirements, such as Executive Orders. We have noted that Section 206(a) itself states only that the requirements of Section 8 must be met. However, neither this statement nor the legislative history of the Act provides any basis for construing Section 206(a) as waiving those other requirements which are applicable to Federal grant awards generally (such as the award authority under Section 201(g) or Section 208).

1. NEPA. Section 102 of NEPA (42 U.S.C. 4332) requires an environmental impact study of all ". . . major Federal actions significantly affecting the quality of the human environment . . . ." However, Sec 511(c)(1) of the 1972 FWPCa Amendments provides that "Except for the provision of Federal financial assistance for the purpose of assisting the construction of publicly owned treatment works as authorized by section 201 of this Act, . . . no action of the Administrator taken pursuant to this Act shall be deemed a major Federal action significantly affecting the quality of the human environment within the meaning of the National Environmental Policy Act of 1969 . . . ." Accordingly, NEPA review is not required for reimbursement grants, which are awarded under the separate grant award authorization of Sec. 206 of the Act. We note that NEPA review, if it were required, would be impractical, since there generally are no alternative approaches which are feasible in the case of reimbursement projects the construction of which is either completed or substantially completed. Also, NEPA was enacted after initiation of construction of many of the Sec. 206 projects.

2. Relocation Assistance. The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (42 U.S.C. 4621 et seq.,) prohibits approval of any Federal assistance to any project until the Administrator determines that the policies of the Act will be met (see 40 CFR Part 4 for EPA regulations implementing the Act). The Act requires that certain benefits be made available to businesses and persons displaced by a project after January 1, 1971. Thus, even though a project may have begun in 1967, if persons or businesses were relocated after January 1, 1971, the benefits of the Act must be made available (if, on the other hand, dislocation occurred prior to January 1, 1971 on a project which is not yet complete, no benefits would be available). Implementation of the Act during the remaining periods of uncompleted projects should be accomplished by means of procedures presently used for relocations under construction grants. Implementation of the Act for relocations which occurred after January 1, 1971 without compliance with the Relocation Act, however, may prove troublesome. Reimbursement grantees must be notified of the requirements of the Act, and informed that compliance with the Act is a condition of the grant. One means of obtaining such compliance, where required, could be by requiring the grantee to take all reasonable steps to locate and inform potential relocation assistance recipients, including, where necessary, advertisement in newspapers of wide circulation in the area.

3. The Civil Rights Act of 1964. Title VI of the Civil Rights Act provides that no person shall, on the basis of race, color, or national origin ". . . be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance." (Section 601, 42 USC 2000d). To effect this provision, all reimbursement project applications should be accompanied by the Compliance Report form (EPA Form No.4700-4) developed by EPA's office of civil rights. This will generally be done quite routinely for ongoing projects; for completed projects, the form will develop information on discrimination in service area scope, which is the primary matter of concern. If discrimination is discovered, this office should be consulted as well as the Office of Civil Rights and Urban Affairs, prior to the taking of any action.

4. E.O. 11246 (equal employment opportunity). Section 301 of E.O. 11246 states in pertinent part as follows:

> "Each executive department and agency which administers a program involving Federal financial assistance shall require as a condition for the approval of any grant . . . which may involve a construction contract, that the applicant for Federal assistance undertake and agree to incorporate, or cause to be incorporated, into all construction contracts paid for in whole or in part with funds obtained from the Federal Government . . . or undertaken pursuant to any Federal program involving such grant . . . the provisions prescribed for Government contracts by Section 202 of this Order . . ."

The provisions of E.O. 11246 depend for their efficacy upon contractual implementation. The Order must be implemented for all contracts awarded after the date of award of a reimbursement grant (see EPA's regulations implementing the Order, 40 CFR Part 8). However, the agency need not require revision or modification of contracts which have been awarded prior to the date of grant award. The language of Section 301 of the Order clearly is susceptible of an interpretation which countenances prospective application only (as are the implementing regulations of the Department of Labor; see, e.g., 41 CFR 60-1.4(b)). We are informed by EPA's office of Civil Rights and Urban Affairs that this interpretation is concurred in by the Office of Federal Contract Complaince. In the event additional problems arise with regard to particular contracts under reimbursement grants, it should be noted that the Labor

Department's regulations authorize the Director of the Office of Federal Contract Compliance to ". . . exempt any agency . . . from requiring the inclusion of any or all of the equal opportunity clause . . . when he deems that special circumstances in the national interest so require." 41 CFR 60-1.5(b).

5. Historic preservation. The National Historic Preservation Act of 1966 (16 USC 470 et seq) requires the agency, prior to grant award, to "take into account" the impact of the Federal assisted activity on historical sites and objects included in a National Register developed by the Department of Interior. In addition, the agency must also afford the Advisory Council on Historic Preservation an opportunity to comment on the action. We believe that State review can provide information necessary for review of any situation in which uncompleted construction or site acquisition may affect an historical site. No useful purpose would be served by reviews of historical dislocations which have occurred prior to grant award.

6. Clearinghouse review. Section 204 of the Demonstration Cities and Metropolitan Development Act of 1966 (42 U.S.C. 3334) and the Intergovernmental Cooperation Act of 1968 (42 U.S.C. 4201 et seq), as implemented by OMB Circular A-95, require submission of Federal applications for grants for treatment works construction assistance to certain clearinghouses for review. The purpose of the review is to assure coordination of local, State and Federal planning, and as such the impact is totally prospective. Where construction of a project has already been initiated (as must be the case in order for a project to be eligible for a reimbursement grant) clearinghouse review would serve no useful purpose. It is our opinion, accordingly, that clearinghouse review is not required in the case of Sec. 206 grant awards, except in those cases where such review is required pursuant to State or local law.

7. Flood insurance. Section 102 of the Flood Disaster Protection Act of 1973 (P.L. 93-234) (FDPA) prohibits the approval after March 1, 1974 of any federal financial assistance for acquisition or construction in any flood hazard area in which flood insurance is then available, unless the buildig or personal property to which such assistance relates is covered by flood insurance for its entire useful life, in an amount at least equal to its cost or the maximum limit of coverage available, whichever is less. "Financial assistance

for acquisition or construction purposes" is defined in §3(a)(4) of this Act to include "any form of financial assistance which is in whole or in part for the acquisition, construction, . . . of any . . . building . . ., and for any [personal property] . . . contained or to be contained therein . . . ." "[F]inancial assistance" is also defined to include any form of grant, payment or rebate. §3(a)(3). Accordingly, reimbursement under §206 of the 1972 FWPCA is included in the definition of financial assistance under the Flood Disaster Protection Act. Since the federal financial assistance is in the form of reimbursement of expenditures for acquisition and construction purposes, the FDPA is applicable.

Therefore, the following grant condition must be included in any grant awarded under §206:

> The grantee agrees to acquire and maintain any flood insurance made available to it under the National Flood Insurance Act of 1968, as amended, in an amount at least equal to the total eligible project costs or to the maximum limit of coverage made available under the National Flood Insurance Act of 1968, as amended, whichever is less for the entire useful life of the project. Provided that this condition shall not be applicable if, on the date of grant award, flood insurance was not available pursuant to the Flood Insurance Act of 1968, as amended, for property in the project location or if the property is covered under State policy of self-insurance approved under such Act.

If Sec. 206 grant agreements have already been approved (after March 1, 1974) without this condition, no further grant payment may be made until such condition is incorporated by grant amendment or amendment of the Sec. 206 regulations, or both. Determination of compliance with this condition may be accomplished in conjunction with the Sec. 206 audit.

8. Copeland Act. A portion of the Copeland Act relates to "kickbacks" from public works employees, the inducement of which can have criminal consequences. 18 U.S.C. 874. The remaining provisions of the Act require contractors and subcontractors to submit weekly statements of wages paid to employees. 40 U.S.C. 276c. The statute, and its implementing regulations (29 CFR 3.1 et seq.) are designed to aid in enforcement of the minimum wage provisions of the Davis-Bacon (see discussion under A-14 above). Generally, 40 U.S.C. 276c

will be implementable only for contracts and subcontracts awarded after the date of reimbursement grant award.

CONCLUSION

The foregoing requirements constitute all of the Federal requirements which are applicable, in our opinion, to the award and administration of the Sec. 206 reimbursement grant awards in the second category first mentioned in this memorandum. You should note that the requirements mentioned in Parts (B) and (C), above, are also applicable to the first category of grants, i.e., those where there has been a prior grant award or Federal approval. For example, if a Sec. 8 grant was awarded in 1968 for a project, the Relocation Act procedures would not then have been applicable, since that statute had not yet been enacted; however, the award of Sec. 206 assistance at this time constitutes a Federal action which has the effect of making the Relocation Act applicable to relocations effected after January 1, 1971, even though the Relocation Act had not previously applied to the project. The procedures discussed above would be applicable, but we would expect that such instances would be infrequent.

We would call to your attention, with respect to Sec. 206 award and payment procedures, the following provisions of Sec. 3 of Public Law 93-207 (emphasis added):

> "*** Notwithstanding the provisions of subsection (d) of such section 206, (1) the Administrator is authorized to make interim payments to each such project for which an application has been approved on the basis of estimates of maximum pro rata entitlement of all applicants under section 206(a) . . . . Upon completion by the Administrator of his audit and approval of all projects for which an application has been filed under subsection (a) of such Section 206, the Administrator shall, within the limits of appropriated funds, allocate to each such qualified project the amount remaining, if any, of its total entitlement. *** In no event, however, shall any payments exceed the Federal share of the cost of construction incurred to the date of the voucher covering such payment plus the Federal share of the value of the materials which have been stockpiled in the vicinity of such construction in conformity to plans and specifications for the project."

In the accompanying November 29, 1973 House Report (No. 93-680), there is the following additional comment (emphasis added):

> "*** It has become evident that many eligible recipients would be forced to incur expenses and delays in new projects or risk failure of projects under construction if payments were made only after complete review and determination on all applications. The large number of applications for reimbursement will require extensive processing by the Environmental Protection Agency before full payment on each can be made. Section 3 of the legislation authorizes preliminary interim reimbursement of funds to projects which can be easily approved on the basis of available documentation pending final processing of all projects. This would include nearly all projects for which there has been any Federal financial assistance in the past, from the Environmental Protection Agency or other source. This will prevent undue disruption in community plans and also facilitate an orderly cash flow by the United States Government. It is expected that the Environmental Protection Agency will immediately implement the interim payment provisions of this section."

We are aware that EPA is under considerable pressure from Congress, state agencies, and eligible municipalities to expedite Sec. 206 payments. While the agency has no discretion concerning the applicability of Federal requirements discussed in this memorandum, it may be possible to ease the administrative burden of such requirements upon grantees and this agency. We will be pleased to assist in developing alternative procedures, if any are suggested, to facilitate compliance with applicable Federal requirements. In order to accomplish the purposes of Sec. 101(f) of the 1972 FWPCA Amendments, which emphasize a national policy of "drastic minimization of paperwork," we recommend that emphasis should be placed upon record retention by grantees and examination of grantee records upon audit, rather than requiring the submission of copies of documents (such as entire construction contracts), unless such submissions are absolutely required to determine eligibility or quantum questions. It may be necessary to defer payment upon projects in the second category until completion of an audit, unless entitlement and quantum are adequately demonstrated by the grantee.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

18 MAY 1974

PROGRAM GUIDANCE MEMORANDUM
NO. PG-31

TO : All Regional Administrators
Attn: Director, Air and Water Programs Division

FROM : Harold P. Cahill, Jr., Director
Municipal Construction Division

SUBJECT: Obligation, Recovery and Reallotment of Contract Authority Funds

Allocated FY-73 funds, which are unobligated as of close of business on June 30, 1974, will be withdrawn on July 1, 1974, and immediately reallotted to those States which used their full allotment. Reallotment will be on the basis of the ratio used in making the last allocation -- viz., the percentages used in formulating the FY-75 State allotments.

The above reallotment procedure applies equally to FY-73 funds which were obligated prior to July 1, 1974, withdrawn, and remain unobligated as of close of business June 30, 1974. As you know, present procedures imposed on EPA for reallotting recovered funds (from FY-73 and prior year allotments) necessitate approximately six to eight weeks "turn around" time. Although the Office of Resources Management is currently attempting to get relief from this delaying procedure, it is important to recognize that, when considering the deobligation of FY-73 funds, FY-73 recovered funds "caught" in the reallotment procedure, if not obligated by 6/30/74, will be reallotted as noted in the paragraph above.

All FY-73 funds reallotted after June 30, 1974, will retain their FY-73 identification and will be available for reobligation in the same manner as obligations made from FY-74 allotments. However, reallotted funds should be obligated on the first grant offer or offers made following reallotment. As a general rule, in obligating construction grant funds, Regions are expected to use the oldest year's allotments first. However, where regulations or policy dictate otherwise, or where conditions warrant a departure from this rule, the exercise of prudent Regional judgment is expected.

FY-74 funds, after the close of business on 6-30-74, will be withdrawn and reallotted. This annual withdrawal and reallotment is an accounting procedure implemented for the purpose of improving fiscal controls. Upon reallotment, the only change will be that of the allowance and account numbers. The status and amount of each State's FY-74 account will remain the same. Revised Regional/State FY-74 allowance and account numbers, to be used beginning July 1, 1974, will be issued by the Office of Resources Management in advance of that date so that the obligation of available FY-74 funds can continue uninterrupted. Until 6-30-74, recovered FY-74 funds, unlike FY-73 and prior year allotments, can be immediately reobligated. However, beginning July 1, 1974, recovered FY-74 funds must be reallotted before they can be reobligated.

FY-75 funds recovered prior to July 1, 1974, are not subject to reallotment on 6-30-74 and, upon recovery, can be immediately reobligated.

In connection with FY-75 allotments, all projects, initially funded with FY-75 funds -- regardless of the date of award -- must comply with BPWWT requirements. Projects initially funded after 6-30-74 with FY-74 or FY-73 funds are not subject to BPWWT requirements.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

PROGRAM GUIDANCE MEMORANDUM
PG-32

SUBJECT: Management of Construction Grants Funds

DATE: APR 19 1974

FROM: Alvin L. Alm
Assistant Administrator for Planning and Management AA

Roger Strelow Roger Strelow
Acting Assistant Administrator for Air and Water Programs

TO: Regional Administrators

The purpose of this memorandum is to announce a revision of Agency policy to permit the discretionary use of Title II contract authority for funding grant increases for cost overruns on Section 8 projects, except those projects that are eligible for funding under Section 206 of PL 92-500. This memorandum and the attached documents supersede the following:

- memorandum on Management of Construction Grant Funds from Messrs. Alm and Sansom to Regional Administrators, dated December 7, 1973,
- Office of Resources Management, Policy and Procedure Memorandum #9, dated December 7, 1973, and
- where applicable, opinions of the Office of General Counsel dated November 16, 1972, March 23, 1973, and July 17, 1973.

Revised Legal Opinion

Attachment I is the revised legal opinion which indicates that we now find that Section 4(c) of PL 92-500 provides the discretionary authority to use Title II contract authority to fund grant increases for cost overruns on Section 8 projects not eligible under Section 206. This opinion reverses earlier opinions which found that Title II contract authority could not be used for Section 8 projects and which determined Agency policy as delineated in the December 7, 1973 memoranda cited above.

Revised Policy

Pursuant to this revised legal opinion, we have revised and are hereby issuing Office of Resources Management Policy and Procedures Memorandum #9A (Attachment II).

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Discussion of Revised Policy

Since our policy issuance of December 7, 1973, we have been advised by the regions that, in many States, there currently are, or are likely to be, insufficient unobligated 1972 and prior-year funds (including potential recoveries of such funds) to cover all Section 8 project cost overruns. This has resulted in our not being able to provide grant increases to certain projects where bids substantially exceed the estimated costs. In some cases, communities have felt forced to give up their Section 8 grants and reapply under Title II. Also, the regions have reached, or will reach, the point where eligible grant increases for change orders during construction cannot be approved within available 1972 and prior-year funds. The use of Title II contract authority to supplement available 1972 and prior-year funds, as provided in this policy revision, will provide a means to solve these problems.

We wish to emphasize that the intent of this revised policy is that Title II contract authority is available to supplement available 1972 and prior-year funds for cost overruns. Available 1972 and prior-year funds must be used first and before Title II contract authority can be used for Section 8 cost overruns. Also, and equally important, we are continuing our previous policy (see December 7, 1973 memoranda) of maximizing the availability of 1972 and prior-year funds through the recovery of funds where possible, particularly from projects that are not under construction without good justification within two years after the grant award. In short, our policy is to use Title II contract authority only when and where 1972 and prior-year funds are not available or cannot be made available through recoveries. When Title II contract authority is used, it should be taken from the five percent reserve for overruns required under 40 CFR-35.915(g).

Our policy prohibits the use of 1972 and prior-year funds for Title II projects. It also prohibits, on grounds of equity, the use of either Title II contract authority or 1972 and prior-year funds for grant increases for changes in project scope. Such changes in scope should be handled as separate projects--applied for, funded and processed under Title II.

Funding of Section 206 Projects

The legal opinion and our policy prohibits the use of either Title II contract authority or 1972 and prior-year funds for the reimbursement of projects eligible under Section 206 of PL 92-500 since it is clear that Congress intended that such reimbursements should be exclusively funded with monies authorized under and appropriated for Section 206.

We expect project cost overruns (by virtue of change orders) subsequent to January 31, 1974, on active Section 206 projects. The revised policy treats these increases as potential additional demands on Section 206 monies and prohibits the use of either Title II contract authority or 1972 and prior-year funds for grant increases to cover these cost overruns.

Funding of Section 202 Requirements

The revised policy does not permit the use of Title II contract authority to bring grants, eligible under Section 202 of PL 92-500, up to 75 percent Federal funding. Only 1972 and prior-year funds may be used for this purpose. The revised policy does permit, however, the use of either Title II contract authority or 1972 and prior-year funds for grant increases for cost overruns on projects eligible under Section 202. These grant increases must be made at the percentage reached through application of Section 202; that is, either 75 percent or that percentage reached through the application of waivers.

Mixing of 1972 and 1971 Funds

The December 7, 1973 memoranda cited above prohibited the use of 1972 funds on 1971 and prior-year projects. This previous policy is rescinded. Under the revised policy, 1972 and prior-year funds can be used interchangably for grant increases on any Section 8 project except those eligible under Section 206.

Termination of Old Projects

The December 7, 1973 memoranda directed the termination of Section 8 projects which had been in a preconstruction stage for two years or more. This policy remains in effect and is to continue to be implemented. Moreover, projects in the preconstruction stage should be continually monitored; and, when conditions dictate the need for an earlier (than 24 months) termination, this action should be initiated with State concurrence.

Exceptions can be granted to permit some projects to remain in the preconstruction stage in excess of 24 months. Requests for waivers for additional time, based on prudent justifications, must be addressed to the Deputy Assistant Administrator for Water Program Operations and contain revised preconstruction schedules which the Regions will enforce. Grantees under enforcement orders can be expected to be granted reasonable time extensions.

Effective Date

The revised policy and procedures announced herein become effective immediately. These are always open to comment, however. If you should have problems, questions or comments, you may contact Mr. Harold Cahill, Municipal Waste Water Systems Division or Mr. Gary Dietrich, Associate Deputy Assistant Administrator for Resources Management.

Attachments

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

ATTACHMENT I

Apr. 18, 1974

MEMORANDUM

OFFICE OF ENFORCEMENT
AND GENERAL COUNSEL

SUBJECT: Use of Funds Authorized or Appropriated under Section 207 of the 1972 FWPCA Amendments to Fund Overruns on Grants Awarded Under Section 8 of the Former FWPCA

FROM: Alan G. Kirk II signed
Assistant Administrator
for Enforcement and General Counsel (EG-329)

TO: John T. Rhett
Deputy Assistant Administrator
for Water Program Operations (AW-446)

You have requested an opinion on the following question

Question

Does Section 4(c), Federal Water Pollution Control Act Amendments of 1972, authorize use of Title II funds authorized or appropriated under Section 207 to fund grant overruns on Section 8 projects?

Answer

Yes. Section 4(c) of the 1972 FWPCA Amendments permits utilization of 1973 and later contract authority allocations and appropriations thereunder for monetary increases necessary to fund Section 8 grant overruns. However, funding of these increases is not mandatory.

Section 4(c)

Section 4(c) provides:

"(c) The Federal Water Pollution Control Act as in effect immediately prior to the date of enactment of this Act shall remain applicable to all grants made from funds authorized for the fiscal year ending

> June 30, 1972, and prior fiscal years, including any increases in the monetary amount of any such grant which may be paid from authorizations for fiscal years beginning after June 30, 1972, except as specifically otherwise provided in section 202 of the Federal Water Pollution Control Act as amended by this Act and in subsection (c) of section 3 of this Act."

Section 4(c) originated in Section 4(c) of H.R. 11896: there was no comparable provision in S. 2770.

The March 11, 1972 report (Report No. 92-911, 92d Cong., 2d Sess.) which accompanied H.R. 11896 explained the foregoing provision, which was enacted into law without change from the same provision in H.R. 11896, as follows:

> "Subsection (c) of section 4 provides that the existing Federal Water Pollution Control Act will remain applicable to all grants made from Fiscal year 1972 funds (and prior year funds) including increases in the monetary amount of any such grant which may be paid from fiscal year 1973 funds (or later year funds). An exception to this would be made for the higher cost sharing permitted under section 202 of the Federal Water Pollution Control Act as amended by section 2 of this bill.
>
> "The Committee notes that there may be publicly owned treatment works presently under construction and receiving Federal assistance under section 8 of the existing law where it may be later determined that the Administrator underestimated the eligible costs of construction. Subsection(c) would permit the Administrator to pay the grantee the remaining eligible amount from Fiscal Year 1973 (or later year) funds. However, the payment would be based on the applicable cost-sharing arrangements of section 8 and

> not the higher amounts of section 202. The grants made from fiscal Year 1972 funds being eligible for the higher percentages of section 202 would, of course, not be limited to the amounts specified in section 8 of the existing law."

As we have noted, Section 4(c) was carried forward verbatim into Public Law 92-500, enacted October 18, 1972. The September 28, 1972 Conference Report (Senate Report No. 92-1236) noted, at p. 152, that there had been no comparable provision in the Senate bill, that the conference provision was the same as the House amendment, and summarized the provisions of Section 4(c) as follows:

> "The existing Federal Water Pollution Control Act is made applicable to all grants made from funds authorized for fiscal year 1972 and prior fiscal years, including increases in the monetary amount of any such grant which may be paid from authorizations for fiscal years beginning after June 30, 1972, except as specifically otherwise provided in section 202 of the Federal Water Pollution Control Act and section 3(c) of this Act."

Discussion

Section 4 is titled as a "Savings Provision" in the statute and conference report. Generally, the function of a savings provision is to preserve that which has previously been done or provided for and not to constitute new authority for the expenditure of allocated funds. Section 4(b), which preserves the validity of regulations issued and actions taken under the prior FWPCA, is an example of a typical savings provision.

The principal intent of Section 4(c) is the same as that underlying Section 4(b), namely, to clarify what rules applied to grants awarded under the authority of Section 8. Such provision was particularly necessary because Section 3 of the new statute authorized EPA to make additional grants under Section 8 of the old law after the passage of the new law. Undoubtedly, Section 4(c) was included in the Act to make it clear that grants awarded under the authority of Section 8 through December 31, 1972, would be governed by the requirements of the Section 8 program.

However, section 4(c) contains the phrase: "any increase in the monetary amount of any such grant which may be paid from authorizations for fiscal years beginning after June 30, 1972 . . . ." An examination of the legislative history takes this phrase out of the context of a savings provision, and constitutes, if it is to be given its literal interpretation, authority to divert Title II funds, authorized and appropriated for the principal purpose of making Title II construction grants, to payment of grant overruns on old section 8 projects. (See section 207, FWPCAA.)

We believe a narrow interpretation should be placed upon this phrase, since it appears to be in derogation of the intention of Congress to utilize this fund for new projects. For example, state allocations for Title II funds are based upon needs surveys for new construction and not for funding previously approved construction. To the extent that these funds are used for previously approved construction projects, new projects now on priority lists or requesting listing thereon will be delayed in funding. We note, however, that utilization of Title II contract authority and appropriations is already occurring in those instances where a Section 8 project, which has experienced a substantial overrun, is "split" into two projects to permit funding of a portion of the construction from Title II contract authority.

It is necessary to examine the provisions of Section 206 in further interpreting the intent of Congress in passing Section 4(c). Section 206 was, in our opinion, deliberately designed to be the sole source of reimbursement to Section 8 grantees (and to non-grantees) who proceeded to construction either with grants at a lower percentage than the law then allowed or with no grant at all.

Section 206(e) provides in pertinent part:

> "The authorizations contained in this subsection shall be the sole source of funds for reimbursements authorized by this section."

Section 206(d) provides a system of allocating the Section 206(e) funds among all claimants therefor. Section 206(c) provides that applications for reimbursement under Section 206 may be revised from time to time. Thus Section 206 provides not only for grant increases to raise the percentage of the original grant, but also to fund grant overruns at the higher

percentage, all from funds appropriated under Section 206(e) for reimbursement.

Public Law 93-207, passed December 28, 1973, amended Section 206(e) to increase the authorization to $2,600,000 and amended Section 207 to provide that authorizations under Section 207 were not to be used to carry out the provisions of Section 206.

We conclude, therefor, that those grantees eligible for Section 206 reimbursement are limited to recovery of grant overruns from funds allocated for Section 206 reimbursement, and cannot use Section 4(c) as authority to fund those inadequacies caused by limited funding for Section 206 projects.

Therefore, we have determined that

(1) Section 4(c) may be used as authority for funding grant overruns on any Section 8 project which is not eligible for reimbursement under Section 206, but such grant overruns must be funded at the original grant percentage.

(2) Section 4(c) may be used as authority to fund grant overruns on 1972 Fiscal year funded projects, not eligible for Section 206 reimbursement, at 75 percent of the cost of construction, as authorized by Section 202.

(3) The new Title II regulations are not applicable to Section 8 grants, whether or not grant overruns on these projects are funded with Section 207 (Title II) contract authority funds.

(4) EPA may provide programmatic directions to the Regional offices and to state pollution control agencies, to implement this funding option, to the extent that it is deemed necessary or advisable. The statute is silent on the issue of whether the funding of these grant overruns should be given precedence over projects on the Title II priority lists. With EPA approval, a state may elect to fund eligible Section 8 grant overrun claims prior to or in conjunction with any other utilization of FY 73 and later contract authority funds, without amendment to the Title II priority lists.

The funding of these overruns is discretionary, not mandatory, in the following respects: Except as otherwise provided by Section 202, all funding actions under the authority of Section 8 are discretionary, since that statute authorized grant awards not in excess of certain maximum percentages; consequently, if a cost overrun is not funded the effect is to reduce the Federal share of total actual project costs, which is permissible under Section 8. Also, state agency approval is a prerequisite to utilization of state allocations, so that the state agency necessarily has discretion to deny or defer funding of cost overruns in favor of new projects; see 40 CFR SS 35.840(k), 87 F.R. 11663, and 35.915(h), 35.935-11, and 35.955. Finally, timely notice and approval of project changes is a prerequisite to consideration of grant amendments to increase grant amounts; for cost overruns see the previously cited regulations and 40 CFR SS 30.900 and 30.901. Failure to comply with these requirements constitutes a basis for denial of additional Federal assistance.

For these reasons we have determined that Section 4(c) affords discretion to fund Section 8 project grant overruns, but that such funding is not mandatory. Accordingly, to the extent that the determinations set forth in this opinion differ from those set out in opinions of this office on the same subject dated November 16, 1972, March 23, 1973 and July 17, 1973, those earlier opinions are superseded.

cc: Mr. Alvin L. Alm

Attachment II

OFFICE OF RESOURCES MANAGEMENT
POLICY AND PROCEDURE MEMORANDUM #9A

APR 17 1974

MANAGEMENT OF CONSTRUCTION GRANT FUNDS FOR PROJECTS FUNDED UNDER SECTION 8 OF PL 84-660 AS AMENDED

I. Purpose

The purpose of this memorandum is to set forth (1) policies for funding grant increases for cost overruns on Section 8 projects and (2) procedures for recovering funds from previously awarded projects. This memorandum supersedes Policy and Procedure Memorandum #9 issued on December 7, 1973.

II. Definitions

Section 8 projects--projects awarded on and prior to December 31, 1972, under PL 84-660, as amended and those limited number of projects funded under PL 84-660, as amended, after December 31, 1972, with discretionary funds. By definition, these projects exclude Section 206 projects as defined below.

Title II projects--projects awarded after December 31, 1972, under PL 92-500.

Section 206 projects--projects which are eligible for reimbursement under Section 206 of PL 92-500.

Available 1972 and prior-year funds--the prevailing amounts of unobligated funds from 1972 and prior-year appropriations which are issued to a region in an Advice of Allowance and which, therefore, are available for obligation.

Title II contract authority--the prevailing amounts of unobligated contract authority from 1973, 1974 and 1975 authorizations under PL 92-500 (and future authorizations under amendments to PL 92-500) which are issued to a Region in an Advice of Allowance and which, therefore, are available for obligation.

III. Policy

1. Available 1972 and prior-year funds and Title II contract authority may be used to fund grant increases for cost overruns on any and all active Section 8 projects except those eligible for funding

under Section 206 of PL 92-500, provided that:

- all available 1972 and prior-year funds within a State's current allocation are completely used before using Title II contract authority;
- such grant increases are not used to change the scope of the project (changes in scope of Section 8 projects must be treated as separate projects--applied for, processed and funded under Title II; and
- such grant increases are at the same percentage as the original grant.

When using Title II contract authority for Section 8 overruns, the five percent reserve required under 40 CFR-35.915(g) should be used.

2. Available 1972 and prior-year funds may not be used to fund Title II projects or increases thereto.

3. Available 1972 and prior-year funds and Title II contract authority may not be used to fund grant increases of any kind to Section 8 projects eligible for funding under Section 206 of PL 92-500. Only monies authorized under and appropriated for Section 206 may be used to fund grant increases to Section 206 projects, including grant increases for cost overruns to such projects which occur after January 31, 1974.

4. Title II contract authority may not be used to increase grants eligible under Section 202 of PL 92-500 to 75 percent Federal funding. However, available 1972 and prior-year funds may be used for this purpose. Title II contract authority and 1972 and prior-year funds can be used for grant increases for cost overruns on Section 202 projects, but the percentage of the grant increase may not exceed the percentage reached through application of Section 202.

5. Grant awards to all Section 8 projects which have been or will be in a preconstruction stage for more than twenty-four (24) months are to be terminated by the Regional Administrator unless a waiver is requested and approved by the Deputy Assistant Administrator for Water Programs Operations.

6. Funds recovered from the deobligation of awards made in any fiscal year prior to the fiscal year in which the deobligation is made must be first reapportioned by the Office of Management and Budget before they can be and are made available for reobligation. This applies to 1972 and prior-year funds as well as Title II contract authority.

7. All recovered 1972 funds and recovered Title II contract authority will be credited to the allocations of the same States from which the funds are recovered. All recovered 1971 and prior-year funds, except 1964, 1965 and 1966 funds, will be credited to the allowance of the same Region from which such funds are recovered, and the Regional Administrator will have the discretion to determine how these recoveries are credited to the States within his Region. All recovered 1964, 1965 and 1966 funds will revert to the Treasury and will not be reissued to the Regions. At such times in the future, when available 1972 and prior-year funds within a State's allocation exceed its potential needs for cost overruns, these funds will be reallocated to States having cost overrun needs which cannot be satisfied with their available 1972 and prior-year funds.

IV. Procedure for Recoveries

1. At such times as a grant decrease or withdrawal is made against grants awarded in a fiscal year prior to the fiscal year in which the grant decreases or withdrawal occurs, the Regional Financial Management Officer should take appropriate action to deobligate the respective funds and record these deobligations in the financial management information system. This procedure applies to grants awarded with both Title II contract authority and 1972 and prior-year funds.

2. As funds are deobligated, the Regional Financial Management Officer should request their recovery and reissuance by the Budget Operation Division of the Office of Resources Management. This request should verify that the deobligation(s) has been accomplished and properly recorded and should list the amount(s) of each year's funds deobligated from each State(s) so that, when the funds are recovered (reapportioned), they can be reissued to the account of the same State(s). The Regional Administrator has the prerogative of redistributing recoveries of 1971 and prior-year funds (except 1964, 1965 and 1966 funds which revert to the Treasury); therefore, the request need not specify how the recovered funds are to be reissued

to individual State accounts.

3. Upon receipt of requests, the Budget Operations Division will seek reapportionment of the deobligated funds from the Office of Management and Budget. When reapportioned, the Division will reissue the funds in accordance with the specifications of the request.

V. Savings Provisions

From time-to-time, the Office of Resources Management may find it necessary to withhold, withdraw, or place additional constraints or controls on fund allowances issued under the foregoing policies and procedures in order to comply with provisions of authorizing or appropriating legislation, directives of the Office of Management and Budget, or other external requirements.

Richard Redenius
Deputy Assistant Administrator
for Resources Management

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

May 10, 1974

PROGRAM GUIDANCE MEMORANDUM
NO. PG-33

SUBJECT: Grant Funds and Project Segmenting

FROM : Harold P. Cahill, Jr., Director
Municipal Construction Division

TO : All Regional Administrators
Attn: Director, Air and Water Programs Division

The passage of P. L. 93-243 enables a construction grant to be awarded to a segment of a project without regard to operability. Regulations implementing this legislation have been included in Title II Regulations, paragraphs 35.930-4 and 35.935-1. The legislation and regulations provide an alternate course of action in those circumstances where the construction of an extremely large project would result in program scheduling difficulty for the State in the management of its total grant program. The provisions should enable a State's program to move ahead when its priority list is being blocked by certain project or projects.

Segmenting prudently administered should prove beneficial to the management of State programs. However, in undertaking the segmenting of a project it is important that both the State and municipality recognize that such a step must be taken within the framework of the law and regulations of which it is a part. It is essential to insure that (a) all grants are awarded at the 75% level. Under no circumstances can a grant be awarded for less than 75% of the eligible cost of the project; (b) the project must be comprised of a discrete and meaningful contract or sub-contract; and (c) the awarding of a grant to a segmented project in no way binds the Federal Government to funding the remaining segment or segments comprising the total project. Moreover, when an applicant undertakes a segment of a project and receives a grant award for that segment, he is committed to the completion of both an operable treatment works and the complete sewage treatment system of which the segment is a part.

Therefore, each construction grant (Step 3 grant) awarded for a segmented project must contain a statement embodying the above and that which is specifically provided for in paragraphs 35.930-4 and 35.935-1 of the Title II Regulations.

The following statement therefore shall be included as a part of any Step 3 construction grant for a segmented project.

> "The grant awarded is for 75% of a segment of a total project. In accepting this award, the grantee agrees to complete the construction of the operable treatment works (see 35.905-15) and complete waste treatment system of which the project is a part (see 35.930-4) and, the grantee further understands and agrees that the Federal Government is not committed to participate in the funding of the remaining part or parts of the operable portion of the system or of the complete system (see 35.935-1)."

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

SUBJECT: Class Deviation--Use of Force Account Work on Construction Grant Projects

DATE: May 7, 1974

PROGRAM GUIDANCE MEMORANDUM PG-34

FROM: Alexander J. Greene, Director signed
Grants Administration Division (PM-216)

TO: Regional Administrators

The construction grant regulations (40 CFR 35.935-2(a) published February 11, 1974) permit the use of force account only for Step 1 or Step 2 infiltration/inflow work for which the Regional Administrator has given prior written approval and segments of Step 3 work, the cost of which is estimated to be less than $25,000. Many grantees possess the capability to perform other phases of work generally connected with construction grant projects.

A deviation from the provisions of 40 CFR 35.935-2(a) relating to the use of force account on construction projects is approved. The effect of this deviation is to allow the use of force account for any Step 1, 2 or 3 work for which the Regional Administrator has given prior written approval based on the grantee's demonstration that (1) he possesses the necessary competence required to accomplish such work and (2) the work can be accomplished more economically by the use of the force account method.

This section will be modified accordingly when the Title II regulations are amended.

[x] Concur - No comment

[ ] Concur with comment (See attached)

[ ] Non-concur (See attached)

signed

Charles Elkins
Acting Assistant Administrator
for Water and Hazardous Materials

[x] Concur - No comment

[ ] Concur with comment (See attached)

[ ] Non-concur (See attached)

signed

Alvin L. Alm
Assistant Administrator
for Planning and Management

EPA Form 1320-6 (Rev. 6-72)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

SUBJECT: Approval of Class Deviation - Use of Force Account Work on Construction Grant Projects--BRIEFING MEMORANDUM

DATE: April 30, 1974

FROM:

Alexander J. Greene signed
Director, Grants Administration Division (PM-216)

TO:

Alvin L. Alm
Assistant Administrator for Planning and Management (PM-208)

James L. Agee
Acting Assistant Administrator for Water and Hazardous Materials (HM-556)

Section 35.935-2(a) of the construction grants regulations published on February 11, 1974, restricts the use of force account to Step 1 or Step 2 infiltration/inflow work for which the Regional Administrator has given prior written approval and segments of Step 3 work, the cost of which is estimated to be under $25,000. Two Regional Administrators and the Director, Municipal Construction Division, have requested deviation from this provision indicating that many grantees do maintain well trained personnel on a normal work staff basis who are capable of performing phases of work generally connected with construction projects. Requiring these grantees to award separate contracts for such work would prove more costly and inconvenient to them and could actually cause some project delays.

The requested class deviation would allow any Step 1, 2, or 3 work to be accomplished by force account by a grantee who has demonstrated to the Regional Administrator's satisfaction that he possesses the necessary competence required to accomplish such work and that by utilizing the force account method, the work could be accomplished more economically than by other methods.

We recommend your concurrence in this deviation.

Attachment

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

SUBJECT: Request for Deviation to Subsection 40 CFR, 35.935-2(a) Title II Construction Grants Regulations

DATE: April 1, 1974

FROM:

Harold P. Cahill, Jr., Director
Municipal Construction Division (AW-447) H. P. Cahill Jr.

TO:

Alexander J. Greene, Chief
Grants Administration Division (PM-216)

In accordance with 40 CFR, Section 30.1001, a deviation from subsection 35.935-2(a) of the Construction Grants Regulations is being requested. This subsection relates to the use of force account work for Step 1 and certain parts of Step 2 projects. Most of Step 2 and all of Step 3, construction applicants are not permitted use of force account procedures.

It is our opinion that this requirement reflects an undue and unwarranted penalty on certain applicants. Many applicants maintain well trained personnel on a normal work staff basis that would be capable of carrying out phases of work generally connected with our construction projects. It is therefore, more costly and inconvenient for them to have to place this work under separate contracts. The requirement could actually cause certain projects to be delayed.

We believe the Regional Administrator can make a most adequate assessment of an applicant's competence to carry out force account work in total or any part thereof. On this basis we recommend that a class deviation be allowed to subsection 35.935-2(a) to allow any Regional Administrator to permit force account work to be completed by any grantee for any project, or segment of any step work, provided the grantee demonstrates to the Regional Administrator's satisfaction that such procedure will result in a savings to the project and thus to the Federal share.

Two Regional attachments containing this request are enclosed for your additional information.

Attachments (2)

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EPA Form 1320-6 (Rev. 6-72)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUN 3 1974

PROGRAM GUIDANCE MEMORANDUM
PG-35

SUBJECT: Title II Regulations, Section 35.915(i)--
Reserve for Step 1 and Step 2 Projects

FROM: Harold P. Cahill, Jr.
Director, Municipal Construction Division (WH-447)

Mark Pisano
Director, Water Planning Division (WH-454)

TO: Regional Administrators
ATTN: Air and Water Programs

This memorandum addresses the purpose of the subject regulations which permit a State to retain up to 10 percent of its yearly construction allotment as a reserve for grant assistance for Step 1 and Step 2 projects whose selection for funding is to be determined by the State subsequent to approval of its project list.

This action is intended to provide, where needed, a contingency fund for meeting unexpected situations that may develop subsequent to the time a State's priority list has been established. For example, court enforcement orders or urgent disaster situations may dictate that projects, not within the priority lists funding cut off, be initiated more rapidly than planned. Also, Step 1 projects may be completed earlier than anticipated and an (up to) 10 percent reserve could be available to fund follow-on Step 2 projects that might otherwise be delayed.

Determining which step or steps of a project will be funded by the State with each fiscal years' allotment is an important element of the State's grants management program. A smooth flow of projects in the construction "pipeline" requires that considerable attention be given to step funding during the development of a priority list. Clearly, however, not all project needs can be forseen at the outset. Accordingly, in addition to permitting the amending of priority lists to accommodate commonly expected changes, the regulations enable a State to set aside a portion of its allotment in anticipation of having to readily initiate less predictable, urgently needed projects. This reserve must be incorporated in the State's priority list at the time approvals are sought.

It should be noted that the State has the option to maintain a reserve for Step 1 and Step 2 projects for the full allowable period (up to eighteen months after the date of allotment) or to discontinue it at any time.

This section of the regulations was added to give States the flexibility required to more effectively manage their overall construction grant program. Interpretations need to be made commensurate with this purpose.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

June 5, 1974

PROGRAM GUIDANCE MEMORANDUM
PG-36

SUBJECT: Construction of Pretreatment or Treatment Facilities for Municipal Utilities

FROM: Harold P. Cahill, Jr.
Director, Municipal Construction Division

TO: Regional Administrators
ATTN: Air and Water Program Directors

Questions have been raised regarding the continuation of our practice of awarding grants for sludge handling, pretreatment, and/or overall treatment facilities constructed at municipal water treatment plants--separate from the basic municipal waste water treatment system. This practice, approvable under PL 84-660 (as amended), is inconsistent with the provisions of PL 92-500.

Pretreatment (and treatment) facilities, constructed solely to meet single, special purpose situations, viz., to control pollutants which cannot be handled within the overall municipal system, are not the kind of projects intended for grant assistance under the construction grants program. Such facilities are to be viewed as an integral part of the utility's design and function and their cost, as a capital cost of utility construction. Accordingly, a separate waste water treatment facility, constructed at a municipal utility site, for the sole purpose of treating or pretreating pollutants eminating from that utility, is not to be considered eligible for grant assistance; see 40 CFR 35.925-15.

Therefore, effective July 1, 1974, grants for all such separate facilities cannot be approved. Previously approved grants for projects of this nature are not affected by this decision, nor are Step 3 grants awarded through June 30, 1974.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON D C 20460

SEP 17 1974

PROGRAM GUIDANCE MEMORANDUM
PG-36A

SUBJECT: Eligibility of Wastewater Treatment Facilities at Municipally Owned Water Treatment Works for Construction Grants

FROM: Harold P. Cahill, Jr., Director
Municipal Construction Division (WH-447)

TO: Regional Administrators
ATTN: Air and Water Program Directors

Program Guidance Memorandum 36, issued June 5, 1974, gave notice of the termination of the practice of funding wastewater treatment projects at water treatment plants owned by municipalities. Since the issuance of that memorandum, numerous requests have been received for a more detailed explanation of the reasons for this action. To give added support to EPA's position denying the eligibility of municipally owned water treatment works for wastewater treatment grants, we are providing the following. It is to be used as a supplementary attachment to PG-36.

Section 201(g)(1) of PL 92-500 authorizes the Administrator to make grants for the construction of publicly owned treatment works. Section 202(a) of the Act provides that the amount of any grant shall be 75% of the cost of construction of the treatment works and regulations have been promulgated setting forth standards for determining construction costs eligible for grant assistance. In particular, 40 CFR 35.925-15 provides, in part, "That the allowable project costs do not include costs allocable to the treatment for control or removal of pollutants in wastes introduced into the treatment works by industrial users unless the applicant is required to remove such pollutants introduced from non-industrial sources; and that the project is included in a waste treatment system, a principal purpose of which project and system is the treatment of domestic wastes of the entire community, area, region or district concerned."

From the above, it is clear that one test of a project's eligibility for grant funds is that it has, as its principal purpose, the treatment of domestic wastes of the entire community, area, region or district concerned. A municipally owned utility could not meet this funding test.

The wastes generated by municipal water works are generally not similar to wastes introduced into the treatment works by non-industrial sources and, accordingly, special facilities are required in order to properly treat these wastes. Since the treatment of water for human consumption is an industrial undertaking, the water company serving a municipality, whether publicly or privately owned, is in the same position as any other industrial user of a municipal treatment system introducing pollutants into the system which require special treatment equipment so that the wastes will neither impair the system's efficiency nor pass through insufficiently treated. This viewpoint is derived from Sections 402 and 307(b) of the Act which prohibit the discharge of pollutants into a municipal treatment works, which are not susceptible to treatment by such treatment works or, which would interfere with the operation of such treatment works.

Under Section 8 of PL 84-660, grant monies were available to municipalities for the construction of necessary treatment works to prevent the discharge of untreated or inadequately treated sewage or other waste into waterways. Under Sections 307 and 402 of the new statute, grant monies are available to treat "usual" wastes expected in treatment works, and special wastes must be removed by the responsible source at its expense.

To allow grant funds to be used to assist the water supply industry could lead to similar requests from a wide variety of other municipally owned facilities such as power plants, airports, mass transportation facilities, feed lots, etc., operated as public utilities. Such action would have the effect of depleting Federal resources intended to support the construction of waste treatment facilities to serve the total municipality.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

July 9, 1974

PROGRAM GUIDANCE MEMORANDUM
NO. PG-37

TO: All Regional Administrators
Attn: Director, Air and Water Programs Division

FROM: Harold P. Cahill, Jr., Director
Municipal Construction Division H. P. Cahill Jr.

SUBJECT: Cancelling PG-28
User Charges and Industrial Cost Recovery System

Enclosed is a copy of the decision (File B-166506-7/2/74) of the Comptroller General of the United States informing that the use of ad valorem taxes for a user charge system for wastewater treatment works does not satisfy statutory requirements of Public Law 92-500. In accordance with the Comptroller General's decision, no project can be approved if the grantee proposes to utilize ad valorem tax funds to satisfy user charge requirements of the Act.

Effective July 4, 1974, those paragraphs pertaining to "user charges" in Program Guidance Memorandum No. PG-28 "User Charges and Industrial Cost Recovery System" are cancelled. The section on "industrial cost recovery" is still applicable and will be included in a new program memorandum to be issued in the near future.

Grants applications in your office, which propose using ad valorem taxes for the user charge system, are to be held in abeyance. Advice pertaining to steps to be taken on these projects as well as those on which grant offers have already been made will be issued shortly.

Enclosure

DECISION

THE COMPTROLLER GENERAL
OF THE UNITED STATES
Washington, D.C. 20548

FILE: B-166506 DATE: July 2, 1974

MATTER OF: Use of ad valorem tax to satisfy statutory requirement for a user charge system for water treatment works.

DIGEST: Statutory requirement that grantees under Public Law 92-500 will adopt system of charges assuring that each recipient of waste treatment services shall pay its proportionate share of treatment works' operation and maintenance costs is not met by use of ad valorem tax since potentially large number of users--i.e., tax exempt properties-- will not pay for any services; ad valorem tax does not achieve sufficient degree of proportionality according to use and hence does not reward conservation of water; and Congress intended adoption of user charge and not tax to raise needed revenues.

We have been requested to render a decision as to the propriety of the Environmental Protection Agency's (EPA) authorizing grant recipients to meet the user charge requirements of section 204(b)(1) of the Federal Water Pollution Control Act (FWPCA) as amended by Public Law 92-500, 33 U.S.C. (supp. II) 1284(b)(1), through the use of an ad valorem tax system. In connection with the matter, we have considered the views of EPA and other concerned parties.

Subsection 204(b)(1) of the FWPCA provides that EPA's Administrator should not approve any grant for any treatment work after March 1, 1973, "unless he shall first have determined that the applicant (A) has adopted or will adopt a system of charges to assure that each recipient of waste treatment services within the applicant's jurisdiction, as determined by the Administrator, will pay its proportionate share of the costs of operation and maintenance (including replacement) of any waste treatment services provided by the applicant; ***." Subsection (2) provides that the Administrator shall issue guidelines applicable to payment of waste treatment costs by industrial and nonindustrial recipients of waste treatment services which - -

> "shall establish (A) classes of users of such services, including categories of industrial users; (B) criteria against which to determine the adequacy of charges imposed

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on classes and categories of the users reflecting all factors that influence the cost of waste treatment, including strength, volume, and delivery flow rate characteristics of waste; and (C) model systems and rates of user charges typical of various treatment works serving municipal-industrial communities."

One of the major purposes of the aforequoted provisions of section 204 was to assure self-sufficiency on the part of the treatment works. Within that framework S. Rept. 92-414, dated October 28, 1971, accompanying S. 2770 states in pertinent part:

"Although the committee is aware of the many different legal and financial circumstances that characterize state and local governments and agencies throughout the country, the bill directs the Administrator to promulgate guidelines for the establishment and imposition of user charge systems as a guide to grant applicants for waste treatment works grants. These guidelines should take into account the diversity of legal and financial factors that exist from jurisdiction to jurisdiction, and each applicant should be permitted reasonable flexibility in the design of a system of user charges that meets the unique requirements of his own jurisdiction. As a general rule, the volume and character of each discharge into a publicly owned system should form the basis of determining the rate at which each user should be required to pay.

"The committee devoted a great deal of attention to the difficult issue posed by the discharge of industrial pollutants into publicly owned treatment sysyems. There is much to be said for encouraging industrial use of public facilities. Each industrial discharge into a public system is one less outfall that must be monitored, and in many cases the economies of scale that characterize public treatment works would permit a net capital saving to the economy as a whole, assuming that the alternative to industrial use of public facilities is the on-site treatment by industry of its own wastes.

"The bill would deal with industrial pollutants in this way: each industrial user of a public system would pay a charge that would include not only that share of operating and maintenance costs allocable to such user but which would also be sufficient to recover that portion of the Federal share of the capital cost of the facility allocable to such user. That portion of the Federal share of the capital cost allocable to each industrial user would be returned to the federal treasury.

"The committee believes that this approach to the issue of industrial use of public facilities appeared to the committee to be the most reasonable and equitable one that can be devised. Any scheme that did not provide for full recovery of the Federal share of capital costs allocable to industrial users would clearly constitute a Federal subsidy of private industry and , more particularly, of those industries that were so situated as to make use of public facilities and industries producing wastes that are compatible with public treatment systems. Any other approach would discriminate unfairly against those industies which, for whatever reason, were unable to utilize public systems.

"It may be that the Congress will, at some future time, determine that some form of Federal financial assistance to industry in meeting pollution control costs--whether through tax relief, loans, or grants--is appropriate. The committee does not prejudge the propriety or need for such assistance. But the committee does conclude that subsidy of private industry through the waste treatment works grant program would be haphazard and inappropriate.

"Discretion is left to the Administrator and to state and local authorities as to the structure of each individual system of user charges. A difficult problem associated with industrial discharges is the calculation of the rate of assessing such charges. Industrial wastes vary considerably in their volume and character. The bill authorizes the Administrator to establish guidelines in the development of industrial user charge rates, which will at the minimum, consider factors such as strength, volume, and delivery flow characteristics of such waste.

"The recovery of the Federal share of capital costs allocable to industry will presumable occur over a rather protracted period of time. Factors that might be taken into account in determining the rate of 'pay-back' by industrial users should include the term during which any debt incurred for the non-Federal share of the capital cost will be retired and the term during which each industrial user is expected to make use of the facility. Also, a particular industry should repay that portion of the Federal grant that reflects its percentage use of the plant's total capacity, which should include any firm commitment of increased use of the facility by that industry. The committee does not believe it would be wise to require that existing industry's capital share be computed on that industry's share of the wastes actually treated when the facility initiates operation. The committee affirmatively concluded that capital

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costs recovered from industry should not include an interest component.

"It may prove to be the case in certain instances that individual industrial operations will conclude that it will be more economical to treat their own wastes than to discharge into a public system. If and where such instances arise, it is logical to conclude that a net saving to the taxpayer and to the consumer will result. It is certainly not the intent of the committee to discourage industrial use of public systems. It is the judgment of the comittee that the industrial 'pay-back' requirement will not discour age such use in most cases. It is clear that the environmental costs should be borne by those who place demands on the environment. User charges carry out this principle." (Emphasis added.)

H. Rept. 92-911,dated March 11, 1972, accompanying H.R. 11896 ates at pages 90-92, in pertinent part:

"A major new condition for receiving a grant relates to the establishment of user charges. This section specifically provides that the Administrator shall not approve any grant for publicly owned treatment works, after June 30, 1973 unless the applicant has adopted or will adopt a system of user charges to assure that each recipient of waste treatment services within his jurisdiction, as determined by Administrator, will pay its proportionate share of operation, maintenance (including replacement) and expansion costs. The applicant's jurisdiction means his entire service area.

"The Committee believes it is essential to the successful operation by public agencies that a system of fair and equitable user charges be established. The Committee recognizes that differing circumstances and conditions in local areas may call for especially designed systems and has therefore proposed that the Administrator promulgate general criteria and that such general criteria allow for variations to meet local conditions. This section contains standards the Committee believes should be taken into account by the Administrator; foremost among these is the underlying objective of achieving a local system that is self-sufficient.

" In connection with industrial users of publicly owned systems, the Committee desired to establish within the user

charge system an arrangement whereby industrial users would pay charges sufficient to bear their fair portion of all costs including the share of Federal contributions for capital construction attributable to that part of the cost of constructed facilities attributable to use by industrial sources. It is the Committee's view that it is inappropriate in a large Federal grant program providing a high percentage of construction funds to subsidize industrial users from funds provided by the taxpayers at large. Accordingly, the bill imposes an obligation on the part of publicly owned systems to incorporate into their user charge schedule a component to recover, without interest, that proportion of the total Federal grant to the community for construction purposes attributable to industrial users. The committee recognizes that there will be some administrative difficulties involved in establishing classes of industrial users and has left to the local system the obligation to set up an effective and equitable system, subject to the approval of the Administrator, inasmuch as the establishment of such a system is a precondition to Federal grants.

"Since one of the objectives of the legislation is the development of self-sufficiency among local systems, the Committee has recommended that the revenues obtained by user charges covering the Federal contribution attributable to the use of the local system by industrial users remain with the local system. The Committee belives, however, that these funds should be used by the local system only for those purposes related directly or indirectly, to the maintenance, operation and development of the system. The Committee strongly opposes rebates to industrial users or any other form of a special treatment which would thwart the objective of the Committee stated above to prohibit Federal subsides to industrial users.

"Among the purposes for which the Committee believes the revenues so received might be used are the following: (1) construction, operation, maintenance, repair and replacement of sewage systems and for the repayment of principal and interest for indebtedness incurred therefor ; (2) support for monitoring the quantity and quality of effluents to the agency's system for industrial, commercial, and residential sources; (3) monitoring of receiving water to ensure maintenance of adopted water quality standards; (4) water pollution control and abatement planning, particularly with respect to developing the interrelationships between such planning and water resources management, air resources management, solid waste

management, and land use planning; (5) establish, operate, and maintain, where feasible, central facilities for the storage and analysis of systemwide operating data to promote the most efficient use and operation of the agency's interceptors, regulating stations, pump stations, and treatment facilities; (6) enhancement of agency-owned property to provide community multi-use facilities over and above the basic function of controlling and abating water pollution; and (7) agency personnel training programs.

"The following are examples of items which the Committee believes should not be financed by such revenues: (1) facilities for the pretreatment and monitoring of industrial waste in order to meet the agency's reserve system requirements; (2) reductions in user charges for specific categories of users, especially industrial users; and (3) payments of agency bonds or other long-term indebtedness outstanding for construction financed under the law as it heretofore has existed.

"Finally, this section provides that approval of a grant to an interstate compact agency would satisfy any other requirement for congressional authorization."

The Conference Committee Report basically states that its substitute is the same as the Senate bill as revised by the House amendment. (Senate Rept. 92-1236, September 28, 1972, pp. 111-112.)

EPA cites the relevant committee reports as well as statements by Congressmen Grover and Mizell in support of their view that the Administrator is to promulgate general criteria, taking into account local conditions which may justify variations of approach and charge. EPA states that the Administrator is required to take into account the historical, legal, and financial background of the community.

To achieve proportionality between classes a surcharge will under EPA's proposal, be levied upon a class from which tax revenue is insufficient to pay that class's proportionate share of operation and maintenance costs attributable to it. EPA feels that the statute does not address the issue of proportionality within classes and with the exception of cases of gross disproportionality, it is not necessary to show that each user within a class is paying the same rate as all other users within its class.

On the other hand, it appears that much testimony was received at congressional hearings in 1970 indicating that user charges

could provide the economic incentive to improve efficiency and reduce the volume of waste produced. However, no action was taken on water pollution legislation in 1970. Congressional committees received similar testimony in 1971 in their consideration of the bill which was subsequently enacted into law. At that time, EPA's then Administrator indicated that the Administration believed that all communities should operate waste treatment systems on a "utility" basis with each user paying a fair share of the cost. We might also point out that in the Senate debate over the Conference Report on FWPCA, Senator Boggs, a conferee, inserted a statement into the Congressional Record which reads, in pertinent part, as follows:

> "The bill requires that a grant recipient establish an equitable user charge system that covers the operating, maintenance, and replacement costs of the project. User charges are designed to assure that the burden of any system's costs will be spread among all users of the system, in relation to the volume of waste discharge, not financed out of local taxes." Cong. Rec., October 4, 1972, p. S16891.

Finally, we note that the bill as passed by the Senate had provided that the Administrator shall determine that there has been adopted "a system of charges to assure that by each category of users of waste treatment services, as determined by the Administrator, will pay its appropriate share of the costs of operation and maintenance." However, the finally enacted provision provides that the Administrator shall not approve any grant until he has determined that the applicant has adopted a system of charges to assure "that each recipient of waste treatment services within the applicant's jurisdiction, as determined by the Administrator, will pay his proportionate share of the costs." In other words, instead of charges by each category of users, Congress apparently decided to require each recipient of services to pay his proportionate share.

We agree that the issue is clearly a difficult one to resolve. Part of the problem is that in the absence of meters--which no one contends are required--it is difficult, if not impossible, to obtain true proportionality within and among the classes of users. The basic difficulty with EPA's position is that the ad valorem system is clearly a tax based on the value of the property and, conceptually at least, the Congress did not intend that a tax be used to obtain the user charges. In addition, the ad valorem system will not reach tax-exempt property and the users of waste treatment services could constitute a relatively significant segment of the users of sewage systems. This omission is, in our view, one of the major failings of an ad valorem system. Moreover, ad valorem taxes will reach

industrial operations and others that do not discharge into a public sewage system. Of major importance also is the fact that the ad valorem tax does not in any way reward conservation of water and this was clearly an important factor in the congressional adoption of the user charge. In addition, as a practical matter, it is difficult to see how EPA could establish guidelines imposing varying surcharges in order to achieve any real degree of proportionality.

We recognize that alternatives to use of the ad valorem method may fall short of achieving absolute proportionality. Nonetheless, such other methods would appear to provide a degree of proportionality with respect to each recipient of sewer services which seemingly cannot be reached by ad valorem taxes. As imprecise a measure as such alternatives might be, they would be more consonant with the intent of Congress that every user should pay its fair share of operation and maintenance costs according to its use of the sewage treatment works and the underlying congressional feeling that the operation and maintenance of these works should be financed on a user, and not a tax, basis. Moreover, the alternative would not penalize those who do not use the sewage system.

Accordingly, while the matter is quite complex and not entirely free from doubt, it is our view that the section 204(b)(1) requirement that each recipient of sewer services will pay its proportionate share of the treatment works' operation and maintenance expenses may not be met through the implementation of an ad valorem tax system. We understand from an article in the Environmental Reporter that EPA's Deputy Administrator has advised several Members of Congress that if this Office were to question the use of an ad valorem user charge system, EPA would seek legislative authority therefor. We agree that if EPA believes that an ad valorem system would be appropriate in certain circumstances, it should seek to obtain statutory authority therefor.

signed

Elmer B. Staats

Comptroller General
of the United States

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

SUBJECT: User Charge Systems

DATE: July 16, 1974

PROGRAM GUIDANCE MEMORANDUM
PG-38

FROM: James L. Agee signed
Acting Assistant Administrator
for Water and Hazardous Materials

TO: All Regional Administrators

By Program Guidance Memorandum No. 37 dated July 9, 1974, you were advised of the recent Comptroller General of the United States opinion informing that the use of the ad valorem tax base for the development of the user charge system for publicly owned waste water treatment works did not satisfy statutory requirements of P. L. 92-500 and that advice would be issued with respect to steps to be taken on those projects for which grant obligations had already been made wherein the applicant intended to use the ad valorem tax base in the development of a user charge system as well as those grant applications pending or in process falling in the same category.

The following steps are to be taken on the above projects:

1. Grant applications in process in your office and those subsequently received which propose using the ad valorem tax base for the development of the user charge system shall be returned to the applicant with the notation that they are in nonconformance with the statutory requirements of P. L. 92-500 as established by the decision (File B-166506-7/2/74) of the Comptroller General of the United States.

2. Existing grants falling in the category in question shall be amended by supplemental conditions stipulating that the ad valorem tax base shall not be used in the development of the user charge system applicable to the project. The grantee should be advised that acceptance of the supplemental condition to the grant must be executed within 30 days of receipt or action will be initiated to withdraw the Federal assistance to the project in the form of the existing grant.

It may be anticipated that in certain cases the grantee may initiate legal action to preclude withdrawal or deobligation of existing grants. It is requested that you keep this office advised as to anticipated courses of action that may be proposed by the communities affected as they become known.

Concurrent with the above and in addition thereto, the Administrator will initiate steps to obtain legislative relief.

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OCT 16 1974

PROGRAM GUIDANCE MEMORANDUM
PG-41

SUBJECT: Overruns, Reserves and Priority Lists

FROM: Harold P. Cahill, Jr., Director
Municipal Construction Division (WH-447)

TO: Regional Administrators
ATTN: Air and Water Program Directors

As a result of rapidly escalating "construction" costs, projects in some States are experiencing overruns, the totals of which are exceeding the amounts set aside in the States' reserves. Questions have been raised regarding the States options when this situation occurs.

Provision for a reserve (for overruns) was incorporated into the regulations because it was generally agreed that projects under construction or about to undergo construction, should not be delayed for funding reasons. EPA would be in an indefensible position if, after diligently processing a project through its many stages of review and approval, at the point of construction initiation or during construction, it did not provide sufficient funds to complete the project. Therefore, from a management viewpoint, once a project is approved for a grant offer, its priority for funding is of the highest order.

Accordingly, and <u>again</u>, every effort must be made prior to the award of a grant offer to establish the most current estimated eligible project cost. When overruns do occur, and sufficient funds are lacking in the reserve to approve the required grant increases, the State may:

1. Use funds from the succeeding year's allotment or,
2. If the succeeding years allotment has not been allocated, defer projects on the lowest end of the fundable portion of the priority list to the succeeding year in sufficient numbers to free up funds for the overruns and/or
3. Negotiate with the grantees experiencing excessive bid costs the possible segmenting of their projects to permit the initiation of more projects within the funding range of the priority list.

Should the State pursue option "2" above, the deferred projects would automatically be placed at the head of the succeeding year's priority list.

Options "1" and "2" may be accomplished by means of a written agreement between the Regional Administrator and the State.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

Program Guidance Memorandum
PG No. 42
Oct 23, 1974

Subject: Engineering Services for Wastewater Treatment Facilities, Revision of Fee Structures

From: Harold P. Cahill, Jr., Director
Municipal Construction Division (WH-447)

To: Regional Administrators
ATTN: Air and Water Program Directors

The agency has established no hard and fast rules requiring certain type Engineer-Municipal contracts. However, a contract based on a percentage of the construction cost, which results in penalizing the engineer for designing the most economical facility to perform a function, shall not be used. It is the intent of the agency that simple, clear cut contracts, which leave no room for future disagreement, be negotiated. These contracts should be such that the engineer receives a fair fee with a reasonable profit for his work and the municipality receives competent, complete professional services at a fair cost. To this end, the following type contractural arrangements are preferred:

(a) Fixed Price
(b) Per Diem
(c) Salary Multiplier
(d) Cost plus a fixed fee
(e) Closed end contract

In all of the above type contracts a maximum fee should be fixed. As in all engineering contracts, should the scope of the project change during the prosecution of the work, the contract would be open for renogotiation.

The employment of any of the above fee arrangements requires a careful analysis of the scope of the work to be performed and a detailed estimate by the engineer of his costs for performing the work. This procedure should assure a clear understanding of exactly what is to be done by whom and should, in the long run, produce a better end product.

In the actual procurement of engineering services, the procedures detailed in Attachment O to OMB Circular A-102 should be followed.

A draft copy of procedures for contracting for Personal and Professional Services for inclusion in the Title II Regulations is presently being prepared in this office and will be sent to you for comment when it is completed.

Enclosure: Attachment O to OMB Circular A-102

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UNIFORM ADMINISTRATIVE REQUIREMENTS FOR GRANTS-IN-AID
TO STATE AND LOCAL GOVERNMENTS

PROCUREMENT STANDARDS

1. This Attachment provides standards for use by the State and local governments in establishing procedures for the procurement of supplies, equipment, construction, and other services with Federal grant funds. These standards are furnished to insure that such materials and services are obtained in an effective manner and in compliance with the provisions of applicable Federal law and Executive orders. No additional requirements shall be imposed by the Federal agencies upon the grantees unless specifically required by Federal law or Executive orders.

2. The Standards contained in this Attachment do not relieve the grantee of the contractual responsibilities arising under its contracts. The grantee is the responsible authority, without recourse to the grantor agency regarding the settlement and satisfaction of all contractual and administrative issues arising out of procurements entered into, in support of a grant. This includes but is not limited to: disputes, claims, protests of award, source evaluation or other matters of a contractual nature. matters concerning violation of law are to be referred to such local, state, or Federal authority as may have proper jurisdiction.

3. Grantees may use their own procurement regulations which reflect applicable state and local law, rules and regulations provided that procurements made with Federal grant funds adhere to the standards set forth as follows:

a. The grantee shall maintain a code or standards of conduct which shall govern the performance of its officers, employees, or agents in contracting with and expending Federal grant funds. Grantee's officers, employees or agents, shall neither solicit nor accept gratuities, favors, or anything of monentary value from contractors or potential contractors. To the extent permissible by state or local law, rules or regulations, such standards shall provide for penalties, sanctions, or other disciplinary actions to be applied for violations of such standards by either the grantee officers, employees, or agents, or by contractors or their agents.

b. All procurement transactions regardless of whether negotiated or advertised and without regard to dollar value shall be conducted in a manner so as to provide maximum open and free competition. The grantee should be alert to organizational conflicts of interest or noncompetitive practices among contractors which may restrict or eliminate competition or otherwise restrain trade.

c. The grantee shall establish procurement procedures which provide for, as a minimum, the following procedural requirements:

(1) Proposed procurement actions shall be reviewed by grantee officials to avoid purchasing unnecessary or duplicative items. Where appropriate, an analysis shall be made of lease and purchase alternatives to determine which would be the most economical, practical procurement.

(2) Invitations for bids or requests for proposals shall be based upon a clear and accurate description of the technical requirements for the material, product, or service to be procured. Such description shall not, in competitive procurements, contain features which unduly restrict competition. "Brand name or equal" description may be used as a means to define the performance or other salient requirements of a procurement, and when so used the specific features of the named brand which must be met by offerors should be clearly specified.

(3) Positive efforts shall be made by the grantees to utilize small business and minority-owned business sources of supplies and services. Such efforts should allow these sources the maximum feasible opportunity to compete for contracts to be performed utilizing Federal grant funds.

(4) The type of procuring instruments used (i.e., fixed price contracts, cost reimbursable contracts, purchase orders, incentive contracts, etc.), shall be appropriate for the particular procurement and for promoting the best interest of the grant program involved. The "cost-plus-a-percentage-of-cost" method of contracting shall not be used.

(5) Formal advertising, with adequate purchase description, sealed bids, and public openings shall be the required method of procurements unless negotiation pursuant to paragraph (6) below is necessary to accomplish sound procurement. However, procurements of $2,500 or less need not be so advertised unless otherwise required by State or local law or regulations. Where such advertised bids are obtained the awards shall be made to the responsible bidder whose bid is responsive to the invitation and is most advantageous to the grantee, price and other factors

considered. (Factors such as discounts, transportation costs, invitations for bids shall clearly set forth all requirements which the bidder must fulfill in order for his bid to be evaluated by the grantee. Any or all bids may be rejected when it is in the grantee's interest to do so, and such rejections are in accordance with applicable State and local law, rules, and regulations.

(6) Procurements may be negotiated if it is impracticable and unfeasible to use formal advertising. Generally, procurements may be negotiated by the grantee if:

(a) The public exigency will not permit the delay incident to advertising;

(b) The material or service to be procured is available from only one person or firm: (All contemplated sole source procurements where the aggregate expenditure is expected to exceed $5,000 shall be referred to the grantor agency for prior approval.);

(c) The aggregate amount involved does not exceed $2,500;

(d) The contract is for personal or professional services, or for any service to be rendered by a university, college, or other educational institutions;

(e) The material or services are to be procured and used outside the limits of the United States and its possessions;

(f) No acceptable bids have been received after formal advertising;

(g) The purchases are for highly perishable materials or medical supplies, for material or services where the prices are established by law, for technical items or equipment requiring standardization and interchangeability of parts with existing equipment, for experimental, developmental or research work, for supplies purchased for authorized resale, and for technical or specialized supplies requiring substantial initial investment for manufacture;

(h) Otherwise authorized by law, rules, or regulations.

Notwithstanding the existence of circumstances justifying negotiation, competition shall be obtained to the maximum extent practicable.

(7) Contracts shall be made only with responsible contractors who possess the potential ability to perform sucessfully under the terms and conditions of a proposed procurement. Consideration shall be given to such matters as contractor integrity, record of past performance, financial and technical resources, or accessibility to other necessary resources.

(8) Procurement records or files for purchases in amounts in excess of $2,500 shall provide at least the following pertinent information: justification for the use of negotiation in lieu of advertising, contractor selection, and the basis for the cost or price negotiated.

(9) A system for contract administration shall be maintained to assure contractor conformance with terms, conditions, and specifications of the contract or order, and to assure adequate and timely followup of all purchases.

4. The grantee shall include, in addition to provisions to define a sound and complete agreement, the following provisions in all contracts and subgrants:

a. Contracts shall contain such contractual provisions or conditions which will allow for administrative, contractual, or legal remedies in instances where contractors violate or breach contracts terms, and provide for such sanctions and penalties as may be appropriate.

b. All contracts, amounts for which are in excess of $2,500, shall contain suitable provisions for termination by the grantee including the manner by which it will be effected and the basis for settlement. In addition, such contracts shall describe conditions under which the contract may be terminated for default as well as conditions where the contract may be terminated because of circumstances beyond the control of the contractor.

c. In all contracts for construction or facility improvement awarded in excess of $100,000, grantees shall observe the bonding requirements provided in Attachment B to this Circular.

d. All contracts and subgrants in excess of $10,000 shall include provisions for compliance with Executive Order No. 11246, entitled, "Equal Employment Opportunity," as supplemented in Department of Labor Regulations (41 CFR, Part 60). Each contractor or subgrantee shall be required to have an affirmative action plan which declares that it does not discriminate on the

basis of race, color, religion, creed, national origin, sex, and age and which specifies goals and target dates to assure the implementation of that plan. The grantee shall establish procedures to assure compliance with this requirement by contractors or subgrantees and to assure that suspected or reported violations are promptly investigated.

e. All contracts and subgrants for construction or repair shall include a provision for compliance with the Copeland "Anti-Kick Back" Act (18 U.S.C. 874) as supplemented in Department of Labor regulations (29 CFR, Part 3). This Act provides that each contractor or subgrantee shall be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he is otherwise entitled. The grantee shall report all suspected or reported violations to the grantor agency.

f. When required by the Federal grant program legislation, all construction contracts awarded by grantees and subgrantees in excess of $2,000 shall include a provision for compliance with the Davis-Bacon Act (40 U.S.C. 276a to a-7) and as supplemented by Department of Labor regulations (29 CFR, Part 5). Under this Act contractors shall be required to pay wages to laborers and mechanics at a rate not less than the minimum wages specified in a wage determination made by the Secretary of Labor. In addition, contractors shall be required to pay wages not less often than once a week. The grantee shall place a copy of the current prevailing wage determination issued by the Department of Labor in each solicitation and the award of a contract shall be conditioned upon the acceptance of the wage determination. The grantee shall report all suspected or reported violations to the grantor agency.

g. Where applicable, all contracts awarded by grantees and subgrantees in excess of $2,000 for construction contracts and in excess of $2,500 for other contracts which involve the employment of mechanics or laborers shall include a provision for compliance with sections 103 and 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 327-33(1) as supplemented by Department of Labor regulations (29 CFR, Part 5). Under section 103 of the Act, each contractor shall be required to compute the wages of every mechanic and laborer on the basis of a standard work day of 8 hours and a standard work week of 40 hours. Work in excess of the standard workday or workweek is permissible provided that the worker is compensated at a rate of not less than 1-1/2 times the basic rate of pay for all hours worked in excess of 8 hours in any calendar day or 40 hours in the workweek. Section 107 of the Act is applicable to construction work and provides that no laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or

dangerous to his health and safety and determined under construction, safety, and health standards promulgated by the Secretary of Labor. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

h. Contracts or agreements, the principal purpose of which is to create, develop, or improve products, processes or methods or for exploration into fields which directly concern public health, safety, or welfare; or contracts in the field of science or technology in which there has been little significant experience outside of work funded by Federal assistance, shall contain a notice to the effect that matters regarding rights to inventions, and materials generated under the contract or agreement are subject to the regulations issued by the Federal grantor agency and the grantee. The contractor shall be advised as to the source of additional information regarding these matters.

i. All negotiated contracts (except those of $2,500 or less) awarded by grantees shall include a provision to the effect that the grantee, the Federal grantor agency, the Comptroller General of the United States, or any of their duly authorized representatives, shall have access to any books, documents, papers, and records of the contractor which are directly pertinent to a specific grant program for the purpose of making audit, examination, excerpts, and transcriptions.

j. Each contract of an amount in excess of $2,500 awarded by a grantee or subgrantee shall provide that the recipient will comply with applicable regulations and stan ·Js of the Cost of Living Council in establishing wages and prices. The provision shall advise the recipient that submission of a bid or offer or the submittal of an invoice or voucher for property, goods, or services furnished under a contract or agreement with the grantee shall constitute a certification by him that amounts to be paid do not exceed maximum allowable levels authorized by the Cost of Living Council regulation or standards. Violations shall be reported to the grantor agency and the local Internal Revenue Service field office.

k. Contracts and subgrants of amounts in excess of $100,000 shall contain a provision which requires the recipient to agree to comply with all applicable standards, orders, or regulations issued pursuant to the Clean Air Act of 1970. Violations shall be reported to the grantor agency and the Regional Office of the Environmental Protection Agency.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

SUBJECT: Escalation Clauses in Construction Grant Projects DATE: Dec. 9, 1974

FROM: signed
John T. Rhett, Deputy Assistant Administrator
for Water Program Operations (WH-446)

TO: Regional Administrators

PROGRAM GUIDANCE MEMORANDUM
PG-44

On several occasions, the Agency has received requests to authorize so-called escalation clauses in construction contracts for wastewater treatment facilities to be awarded by grantees under the provisions of PL 92-500.

Because of the open-ended funding situation created, the probability of the creation of additionally inflated prices, the added real costs of administering the indexing provisions that would be required, and the absence of any real proof of total program cost savings, Federal Agencies have resisted the inclusion of escalation clauses in construction contracts.

Accordingly, grantees will continue to be advised that the Environmental Protection Agency will not provide grant assistance to construction projects for which the grantee proposes to utilize escalation clauses.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

SUBJECT: Use of Value Engineering in the EPA Construction Grant Program

DATE: DEC 11 1974

FROM: John T. Rhett, Deputy Assistant Administrator for Water Program Operations (WH-446)

PROGRAM GUIDANCE MEMORANDUM NO. 45

TO: All Regional Administrators
ATTN: Director, Air and Water Programs

Purpose:

The purpose of this program memorandum is to provide interim policy on the use of value engineering (VE) in the EPA construction grant program.

Policy:

Value Engineering analysis proposed by a grant applicant is grant eligible when a written approval is issued by the Regional Administrator prior to the VE analysis.

Additional engineering fee for any significant redesign to implement an accepted VE recommendation is grant eligible when a request for such fee is considered reasonable and approved in writing by the Regional Administrator prior to the redesign.

Any significant change of scope which would be caused by implementing a VE recommendation is recognized as an acceptable basis for renegotiating the terms or even the basis (e.g., changing from percentage of construction cost to fixed fee) of the AE contract.

Definition:

VE is a systematic and creative approach to identify unnecessarily high costs in a project in order to arrive at a cost savings without sacrificing the reliability or efficiency of the project or increasing operating and maintenance cost. Key features of the VE study include:

1. The analysis is accomplished by an interdisciplinary team (but not the original design team.)

2. VE methodology is used to identify high cost areas, develop and evaluate alternatives, and recommend design or specification changes (see Attachment 1.)

3. The final decision on implementing the VE recommendations is made by the original designer in conjunction with the owner-client and the appropriate State and EPA review authorities.

Background:

The cost-effective approach to wastewater treatment management is directed in the Federal Water Pollution Control Act Amendments of 1972 (the Act.) Under Section 212(2)(b) of the Act, the grant applicant is required to demonstrate that the proposed project is the most cost-effective alternative to meet the goals of the Act. EPA cost-effectiveness guidelines (40 CFR 35, Appendix A) provide guidance to grant applicants for use in making cost-effectiveness studies.

VE is a step beyond the typical cost-effectiveness study. The experience in other agencies shows that application of the VE techniques during design of a project results in significant cost savings. Preliminary reports of the application of VE to municipal wastewater treatment works show that VE is beneficial to increase cost effectiveness in the EPA construction grants program.

By this program memorandum, EPA is providing criteria for use of VE by grant applicants on a voluntary basis. Grant applicants should be made aware of potential benefits provided by VE analysis and encouraged to use it whenever possible. We will be further developing the EPA program in VE as experience is gained.

Procedure:

1. Project phase. Initially the VE analysis effort should be directed to Step II designs. Future application of Step I or Step III is under study and would be considered in special circumstances.

2. VE grant. The grant should be a part of the Step II grant for preparation of plans and specifications. Payment for the VE fee should be flexible and consistent with the payment schedule for the main Step II grant. However, the following guideline can be applied when appropriate:

First payment:	Completion of VE workshop
Second payment:	Completion of VE report and recommendations
Final payment:	Completion of implementation and follow-up process. Submittal of report on actual savings when appropriate.

3. Timing of the VE application when it is submitted as a supplement to an existing Step II grant. The application should be submitted between the start and 40 percent completion of the Step II grant for plans and specifications.

4. In addition to the standard grant information, the application for a VE grant should include:

   a. Pertinent information on the project to be studied, including size, treatment process, current estimated cost, etc.

   b. Cost to accomplish the VE analysis.

   c. Schedule of proposed VE analysis: The grant applicant should indicate the study schedule in relation to the project design schedule to show that undue delay will be avoided. To minimize or eliminate design delays the VE analysis is accomplished while other progress reviews are underway when the design is approximately 50 percent complete. The schedule should also show when the recommendations will be available to the original designer and when the VE report will be submitted to EPA.

   d. Identification of the VE team. The name and professional background of each team member should be given. A VE analysis should be conducted by an interdisciplinary team of design professionals who may be members of the original project design firm or separate consultants, but the team may not be made up of those who were actually involved in preparation of plans and specifications of the project to be analyzed. Normally the team should include a mechanical engineer, a civil/structural engineer, a sanitary engineer, an electrical engineer, and a cost estimator. The team leader should have successfully completed a 40-hour VE workshop conducted by GSA, the American Institute of Architects, the American Consulting Engineers Council, or a similar organization. Additionally, minimum experience in two actual VE analyses of a construction project, and preferably a sanitary project is highly desirable. If the team will be a teaching experience, such as a 40-hour VE workshop, a certified value specialist is highly recommended, as with GSA value studies during design.

   e. Level of effort. Normally the VE analysis will include five days effort by the interdisciplinary team, followed by approximately a week of preparation of project report. In some cases, more than one VE analysis may be appropriate. Often a week or two of preparation is advisable to identify areas of study, assemble teams, and to coordinate with State and local water authorities.

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5. Report upon completion of study. The VE team should submit a final report to include the following:

a. VE summary: The summary should show results using the basic Value Engineering Job Plan methodology employed by the team. See Attachment.

b. Recommendation: The VE team should give final recommendations on each selected alternative and their reasons for each decision.

c. Designers' implementation. The report should describe the action taken to implement the VE recommendations. Rejected recommendations are to be explained in the VE report.

d. Estimated savings. The report should list the estimated cost savings both recommended and implemented, considering capital construction cost as well as annual costs for operation and maintenance and the cost to implement the recommendations. Increased performance capability or reliability should also be reported. Where possible, the savings estimate should be based on a quantity take off.

Additional Information: References

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Gage, William L. Value Analysis. New York - McGraw-Hill. 1967.

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Martin Company. Value Engineering Program. Book II - Cost Analysis. Self-Study Program. 1963.

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Additional information on the use of VE in the EPA construction grants program can be obtained from the Municipal Technology Branch, Municipal Construction Division (WH-447), Telephone A/C 202-426-8976.

*GSA publications are available through the Value Engineering Staff at GSA Regional Office.

Attachment

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ATTACHMENT I

VALUE ENGINEERING METHODOLOGY

Just what is it that Value Engineering does? Basically, VE generates better solutions or design alternatives to the unnecessarily high cost portions of a design or system. It accomplishes this by assuring the identification of those high cost areas and by focusing efforts on them to provide alternate approaches to the design. In reality, VE is an organized problem-solving technique -- and, that's one fundamental difference from other cost reduction techniques. It is organized to create beneficial changes without adversely affecting the needed performance requirements or the quality of the facility. When applied to a project, VE treats cost as a design requirement for the entire life of the system; that is, the cost to design, build, operate and maintain the system for its intended lifetime.

The heart of the VE effort is the multi-disciplined team; that is, a team which is composed of perhaps a structural engineer, or architect, a mechanical engineer, a sanitary engineer, and additional members such as electrical, cost estimating and soils specialists. The objective of this multi-disciplined approach is to bring the broadest outlook (all the disciplines involved in the design) to the team, and to assure that consideration is given to the effects of a change in one criterion on the performance of the entire system. The team leader should be a VE professional who has experience in actual VE analysis of a construction project (preferably a wastewater project).

The VE job plan is a systematic approach. Although there are several job plans that are used, the most direct plan includes the following phases: Information, Identification of alternatives, Analysis, Development and Presentation. All of these phases will be discussed with a simplified example in the following paragraphs. It should be noted here that VE is not completed until the approved alternatives have been implemented into the design.

During a VE study, the needed functions of the system or facility are defined. The "functions" that we define are those performance attributes that must be done. The stress on <u>function</u> is another fundamental aspect of VE. For example, a tank in a wastewater treatment facility has, as its basic function, the containment of mixtures of materials. A tank can contain many things; such as liquids, sludge, slurry, wastes, and so forth. Thus we might define the basic function of a tank, in its broadest sense, as "Contain Materials."

How is a VE Study started?

The study team reviews, for example, the proposed or present design of the tank in order to compile all the available factual information on its usage, design, construction, cost, and so forth. The objective is to ensure that only proven, relevant facts are used in the remainder of the study.

Next, the worth of the function is determined in order to find the best areas in the design to apply the VE effort. In this case, the least expensive way to contain materials may be a hole in the ground. The cost of the hole is estimated in order to provide a base-line figure for worth, which is used to help identify and select those parts of the project having the poorest value; that is, the largest cost-to-worth ratio. We are not advocating holes in the ground in place of tanks. We are merely subjectively determing the measurement of worth by finding the simplest and least expensive way to perform the function: "Contain Materials." And that method is probably a hole in the ground, rather than a tank. We use the cost-to-worth ratio to help us "flag" unnecessarily high cost areas.

The VE team now begins a creative effort to generate alternative solutions for the basic function. The criteria and requirements of the tank system are challenged to offer the broadest approach for achieving the basic function. All of the alternative design approaches are measured against the base-line worth figure. Their advantages and disadvantages are listed. This includes the technological risks in their use, the time required to implement them as changes, and their cost. The best few ways to accomplish the function which give the best value are selected for further study and refinement.

These best approaches are developed into proposals, with detailed cost estimates and a summary of relevant information, including savings and cost comparisons on a total life basis (construction plus operating and maintenance costs). The alternatives are ranked in accordance with their value and ease of implementation. A presentation is then made to the decision-maker (owner and/or original designer) and, after approval, the selected alternate is implemented into the design.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JAN 1 [illegible]

PROGRAM GUIDANCE MEMORANDUM
PG NO. 46

SUBJECT: Large City Problem in State Priority Lists

FROM: Harold P. Cahill, Jr., Director
Municipal Construction Division

TO: Regional Administrators
Attn: Water Division Directors

Forwarded for information is the General Counsel legal opinion, dated December 13, 1974, which discusses the relationships between population and other factors in the composition of a priority list, especially in regard to large metropolitan areas.

Enclosure

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

DEC 13 1974

MEMORANDUM

Subject: Large City Problem in State Priority Lists

From: Alan G. Kirk II
Assistant Administrator for
Enforcement and General Counsel (EG-329)

To: James L. Agee
Assistant Administrator for
Water and Hazardous Materials (WH-556)

A question has been raised as to what control EPA has to prevent large cities, such as Omaha or Honolulu, from using all or almost all available construction grant funds allocable to a State.

Section 204(a) of the FWPCA requires that the Administrator determine, before awarding any grant for any project, that the project has been "certified by the appropriate State water pollution control agency as entitled to priority over such other works in the State in accordance with any applicable State plan under section 303(e) of this Act." (Section 303(e) relates to a State's obligation with regard to continuing planning).

EPA has promulgated regulations concerning criteria for the preparation by States of its priority lists. These criteria are found at 40 C.F.R. §35.915. Subparagraph (c)(1) of that section states that the State "shall consider the severity of pollution problems, the population affected, the need for preservation of high quality waters, and national priorities..." It is our view that the Administrator may not approve a priority list which does not consider and weigh properly the above criteria so as to produce a priority list which reasonably reflects the needs of the State. Further, the criteria should preclude population alone from controlling a priority list.

Where construction needs of a large metropolitan area impinge unduly upon available funds, consideration should be given to funding only those "segments" of construction which are necessary to insure that construction may proceed in accordance with appropriate priorities.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460
March 11, 1975

PROGRAM GUIDANCE #47

SUBJECT: Relationship Between 201 and 208 Planning

FROM: signed
James L. Agee, Assistant Administrator
for Water and Hazardous Materials (WH-446)

TO: Regional Administrators
Regions I - X

This policy statement describes the relationship between 201 facilities planning and 208 area-wide planning. The purpose is to assure that 201 plans are completed expeditiously during the period when an initial 208 plan is being prepared and approved, while at the same time the content of 201 plans is coordinated with the 208 planning process as provided herein. Any statements in previously provided guidance or policy memos which are contrary to the policy in this memorandum are hereby superseded.

201 Facilities Planning

Facilities planning consists of the plans and studies prerequisite to the award of grant assistance for detailed design and construction of publicly-owned treatment works. In the absence of a completed and approved 208 plan, the facilities plan must encompass the following features:

1. Description of the planning area.

2. Selection of service areas.

3. Selection of overall treatment systems, including location, capacity and configuration of all facilities, treatment levels, and preliminary identification of type of treatment and method of disposal of residual wastes.

4. Analysis supporting the selections in 2 and 3 based on identification, evaluation and cost-effective comparison of alternatives.

5. Preliminary designs and studies related to the selected wastewater treatment systems, including sewer evaluation surveys, detailed surface and subsurface investigations of sites for proposed facilities, preliminary designs and detailed cost-effectiveness studies of individual proposed facilities, an environmental assessment, and other requirements set forth in Section 35.917-1 of the Title II regulations.

208 Areawide Planning

Areawide planning sets forth a comprehensive management program for collection and treatment of wastes and controlling pollution from all point and non-point sources. Control measures for abating these sources utilize a combination of traditional structural measures together with land-use or land management practices and regulatory programs. These measures are implemented by areawide management agency or agencies. An initial areawide plan is developed over a prescribed planning period and, thereafter, updated and approved annually.

The portion of the 208 plan devoted to future construction of publicly-owned treatment works should select and describe planning and service areas and treatment systems, and provide supporting analysis for the selection. The 208 planning requirements therefore overlap with the 201 planning requirements described in points 1-4 in the previous section.

Area Coverage

An areawide plan covers are large area with complex water quality problems, generally an entire metropolitan area. A facilities plan focuses on a complete system or systems of municipal treatment work extending over a geographic area large enough to consider adequately the cost-effectiveness of alternatives. An areawide planning area generally includes more than onefacilities planning area, depending on hydrologic and geographic conditions.

Coordination and Funding

The agency's policy on relationship between 201 and 208 planning in the same area during the period before final approval of a 208 plan is as follows:

1. New 201 facilities plans will be started and carried out as provided in the State priority list.

2. The scope and funding of 201 facilities planning will be sufficient to collect data and conduct all analyses necessary for expeditious completion of the 201 plan.

3. Facilities and areawide planning will be coordinatedclosely to avoid unnecessary fragmentation and duplication, potential conflicts and excessive planning costs. Data and analytical work will be shared, but completion of 201 plans should not be dependent on the 208 planning process.

4. Facilities plans that are completed and approved will continue through the Step 2 and 3 stages after timely review and comment by the 208 planning agency.

Interim 208 Outputs

Headquarters is issuing a separate policy statement to require interim outputs during the 208 planning process. These interim 208 outputs would include definition of planning and service areas and treatment levels to guide facilities planning.

After interim outputs are developed and approved by the state and EPA for a 208 planning area, the relationship between 201 and 208 planning in that area will be the same as that described under the section on "coordination and funding" above except that:

1. New facilities planning will be consistent with the approved interim outputs of the 208 plan.

2. The scope and funding of new 201 planning should not extend to developing a justification for the interim outputs. This justification already will be available from the 208 planning process.

Approved 208 Plan

The following will be the policy after the areawide plan has been completed and approved, and the agency or agencies identified to construct, operate and maintain the municipal wastewater treatment facilities required by the plan:

1. All facilities plans underway at the time of approval will be completed by the agency which received the Step 1 grant. The planning effort will continue as before approval unless the analysis in the approved 208 plan clearly justifies a change in required treatment levels or alternative approach on the basis of lower costs or major changes in environmental impacts.

2. The scope and funding of new facilities planning starts will be sufficient to supplement the data and analysis in the 208 plan to the extent necessary to provide a complete facilities plan as required by Section 35.917 of the Title II regulations.

3. New grants for 201 plans will be made to the management agencies designated in the approved 208 plan. New facilities planning will be consistent with the approved 208 plan.

Program Guidance Memo #50

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUN 6 1975

OFFICE OF THE ADMINISTRATOR

SUBJECT: Consideration of Secondary Environmental Effects in the Construction Grants Process

FROM: Russell E. Train
Administrator (A-100)

TO: Regional Administrators
Regions I - X

Purpose

This policy statement provides guidance on consideration of secondary environmental effects during review of plans to construct publicly-owned treatment works with Federal grants under Title II of the Federal Water Pollution Control Act as amended.

Background

Municipalities are required when planning for construction of publicly-owned treatment works to evaluate the environmental impacts of the construction and subsequent operation of the treatment works and prepare an environmental assessment. The Agency reviews the environmental assessment along with the rest of the facility plan and ultimately either issues a negative declaration or, if the project is anticipated to have significant adverse primary or secondary environmental effects or to be highly controversial, prepares an environmental impact statement.

Primary effects are those directly related to construction and operation of the project. Secondary effects of a project are (1) indirect or induced changes in population and economic growth and land use, and (2) other environmental effects resulting from these changes in land use, population, and economic growth. Secondary effects can be of great importance to the environment but normally are much more difficult to predict in advance than primary effects.

This guidance is aimed at assuring that secondary effects of a project are analyzed and taken into account during the grants process in comparable manner throughout the ten regions.

Evaluation of Secondary Effects

The policy of the Agency is that environmental assessments and environmental impact statements shall analyze secondary as well as primary environmental effects, and shall indicate whether such effects may

contravene Federal, State and local environmental laws and regulations, and plans and standards required by environmental laws or regulations. Where such contravention is possible, the best available data and analytical techniques should be applied to analyzing the likelihood and extent of such violations.

Projects which have passed through the initial planning stage but have not yet received a grant for construction should also be assessed in accordance with this policy. Particular attention should be given to large projects to be phased over several years so that the funding of the current project does not commit EPA to future actions which will result in significant adverse effects on the environment.

Actions to be Taken Before Grant is Awarded

Where careful analysis leads to the conclusion that the secondary effects of a project can reasonably be anticipated to contravene an environmental law or regulation, or a plan or standard required by an environmental law or regulation, the Regional Administrator shall withhold approval of a Step 2 or Step 3 construction grant until the applicant revises the plan, initiates steps to mitigate the adverse effects, or agrees to conditions in the grant document requiring actions to minimize the effects.

Secondary effects may be mitigated by a large variety of actions, including, but not limited to:

--phasing and orderly extension of sewer service
--project changes
--improved land-use planning
--better coordination of planning among communities affected by the project
--sewer use restrictions
--modification or adoption of environmental programs or plans such as Air Quality Maintenance Plans
--improved land management controls to protect water quality, such as sedimentation and erosion control and flood plain management.

Care must be exercised if a condition is to be imposed in the grant document to assure that the requirements are reasonable and that the applicant possesses the authority to fulfill the conditions.

The applicant should be required to demonstrate "good faith" and be clearly moving toward proper mitigative action before the grant is awarded.

Actions to be Taken After Grant is Awarded

The regions should follow-up after a grant is made to ensure that the applicant continues to make progress on mitigative actions and to

meet any special conditions imposed by the grant document. Among the actions which the Regional Administrator may take if the applicant fails to abide by the grant agreement are:

--withhold payments
--refuse to process subsequent grant applications from the municipality
--refuse to approve grants for future phases of the projects
--enter an injunction against the grant recipient
--suspend project work
--terminate the grant and recover unexpended EPA funds

Such action should be continued until satisfactory progress has been made.

Special Attention Required

Special attention is required for construction grants projects with secondary environmental effects which may reasonably be expected to requir action under this policy. The process of considering and acting on adverse secondary environmental effects in these cases will be time-consuming and must be conducted with care. Projects with secondary impacts which may be subject to such action should be identified early and receive attention from the time they appear on the project priority list so that suitable agreements can be reached without delaying the project. Regions should work closely with States and local communities to ensure that evaluation of environmental impacts is fully integrated into the planning process.

MANUAL OF REFERENCES

Municipal Wastewater Treatment Works Construction Grants Program *

III. GUIDELINES

The U. S. Environmental Protection Agency, in administering the Nation's Municipal Wastewater Treatment Works Construction Grants Program, must ensure that Federal funds are spent wisely and effectively. Improved levels of wastewater treatment, secondary or higher depending upon the receiving water quality conditions, must be obtained and maintained by the treatment works as required by PL 92-500.

Proper facilities planning, design and operation procedures must be followed, and the most effective methods and criteria must be applied as they are developed and become sufficiently proven to support issuance of Guidelines and Guideline Supplements (i.e., Technical Bulletins). The publications herein are chiefly designed to provide helpful technical information and instructions to planners, designers, and other professional people in government or private firms, involved in the Construction Grants Program. These publications will be augmented or replaced, in whole or part, from time to time as warranted by the emergence and establishment of valid new technical data applicable to the program.

* Under the Federal Water Pollution Control Act Amendments of 1972 (PL 92-500)

MANUAL OF REFERENCES

Municipal Wastewater Treatment Works
Construction Grants Program

III. GUIDELINES

Table of Contents

1. Preparing a Facility Plan, Guidance (revised) - May 1975

2. Sewer System Evaluation, Guidance - March 1974

3. Design, Operation and Maintenance of Waste Water Treatment Facilities, Guidelines - September 1970

4. Operation and Maintenance of Wastewater Treatment Facilities, Supplement to Design Guidelines - August 1974 (replaces pages 31 through 46 of "Design, Operation and Maintenance...", September 1970 publication)

5. Supplements to Guidelines: Design, Operation and Maintenance of Wastewater Treatment Facilities - October 15, 1971
   - Storage and Handling Facilities for Chemicals Utilized in Wastewater Treatment
   - Use of Mercury in Wastewater Treatment Plant Equipment
   - Use of New and Advanced Wastewater Treatment Technology

6. Design Criteria for Mechanical, Electric, and Fluid System and Component Reliability, Supplement to Design Guidelines - 1974

7. Wastewater Treatment Ponds, Supplement to Design Guidelines - March 1974

8. Evaluation of Land Application Systems - March 1975

9. Protection of Shellfish Waters - July 1974

10. Pretreatment of Pollutants Introduced into Publicly Owned Treatment Works, Guidelines - October 1973

GUIDANCE FOR

PREPARING A FACILITY PLAN

MUNICIPAL WASTEWATER TREATMENT WORKS CONSTRUCTION GRANTS PROGRAM

REVISED - MAY 1975

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

GUIDANCE FOR PREPARING

A FACILITY PLAN

Municipal Construction Division
Office of Water Program Operations
Environmental Protection Agency
Washington, D. C. 20460

Revised - May 1975

434

FOREWORD

This guidance is to assist with preparing a preliminary facility plan for construction of municipal sewage treatment works. The facility plan is the first step in a three step process required to complete treatment works with Federal grants from the Environmental Protection Agency. The second step is preparation of detailed design plans and specifications. The third and final step is construction of the treatment works. EPA will generally provide 75 percent of the eligible costs of the three steps in the grants program.

This grants program is now the largest public works program in the United States. The purpose of the facility plan is to assure that the treatment works built under this program are environmentally sound and cost-effective.

The complexity of the process of preparing facility plans will vary with local circumstances, the size and nature of needed facilities and the extent of previous planning efforts. EPA is preparing model facility plans, one for a community of about 5,000, and one for a very small community of only a few hundred persons. These model plans, which are scheduled to be available in mid-1975, will give an indication of the amount of detail appropriate for communities of these sizes.

Effective July 1, 1975, this guidance supersedes "Guidance for Facilities Planning" issued in January 1974. It presents a more streamlined and up-to-date description of the basic requirements and ways of meeting them. We welcome your suggestions for changes, additions or deletions which would help achieve the Agency's objective of timely preparation of facility plans of quality.

James L. Agee

James L. Agee, Assistant Administrator
for Water and Hazardous Materials

GUIDANCE FOR PREPARING A FACILITY PLAN

FOREWORD

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1. INTRODUCTION

1.1 Purpose

This guidance suggests procedures for preparing a facility plan for publicly-owned treatment works. The plan is required before a municipality may obtain a Federal grant under the Federal Water Pollution Control Amendments of 1972 to prepare detailed design plans and specifications, and to construct the treatment works itself.

The approach used here is to describe the requirements in the applicable laws and regulations and suggest a planning process by which they can be met. The principal laws are the Federal Water Pollution Control Amendments of 1972 (FWPCA) and the National Environmental Policy Act (NEPA). Federal documents which provide guidance and assistance with preparing a facility plan are listed in Appendix A. These documents are referenced in the portion of this guidance to which they apply. They may be obtained from the Regional Offices listed in Appendix C. The principal regulation dealing with the facility planning process is enclosed with this guidance as Appendix B, "Water Pollution Control, Construction Grants for Waste Treatment Works" (see particularly Section 35.917).

The level of detail required in a facility plan will vary according to the nature, scale and location of the undertaking. Local municipalities and consultants should discuss the extent of planning required by their community with officials of the State and the Federal Environmental Protection Agency. Preapplication conferences of Federal, State and local officials to discuss how to proceed will be held to the extent resources permit.

1.2 Relationship of Facility Plans to Other Water Planning and Management Programs

1.2.1 State Continuing Planning Process and Basin Plans

Facility plans will conform to applicable approved basin plans prepared under Section 303 of FWPCA (references h, i, and u).

Under the State continuing planning process, "segments" of the nation's waterways have been classified initially as "water quality limited" or "effluent limited". "Water quality limited" segments are those which cannot be expected to meet established water quality standards even if all point sources achieve the effluent limitations required by Section 301 of FWPCA. "Effluent limited" segments are those where water quality standards can be achieved after all point sources meet the effluent limitations required by Section 301.

All publicly-owned treatment works which are constructed with Federal grant funds authorized after June 30, 1974, must achieve "best practicable waste treatment technology", as defined in reference o. Publicly-owned treatment works discharging to "effluent limited"

segments must, as a minimum, provide secondary treatment as defined in reference j. Such works shall provide additional treatment or include the use of other waste management techniques, when factors such as water quality standards for the affected waterway or availability of cost-effective technology warrant standards more stringent than secondary treatment. The precise discharge limitation for facilities on "water quality limited" segments will be determined in the basin planning process or, where this is not complete, in conjunction with the permit program.

1.2.2 Areawide Waste Treatment Management Plans

Areawide plans, authorized under section 208 of FWPCA, are to set forth a comprehensive management program for collection and treatment of wastes, and for controlling pollution from all point and non-point sources. Controls for abating these sources are to utilize a mix of land-use measures, management and regulatory programs, as well as structural methods. The portion of the areawide plan devoted to construction of publicly-owned treatment works in the future should select and describe planning and service areas and treatment systems, and provide supporting analysis for the selection.

Areawide planning requirements, therefore, overlap with facility planning requirements. The Agency's policy on relationships between the two programs during the period before final completion and approval of an areawide plan is as follows:

a. New facility plans will be started and carried out as provided in the State priority list.

b. The scope and funding of facility planning will be sufficient to collect all data and conduct all analyses necessary for expeditious completion of the facility plan.

c. Facility and areawide planning will coordinate closely and share their data and analytical work, but completion of facility plans should not be dependent on the areawide planning process.

d. After a facility plan is completed, the project should continue through the remaining steps of the grants process after opportunity for timely review and comment by the 208 planning Agency.

e. After interim outputs have been developed and approved by the State and EPA for the areawide planning area, new facility plans must be consistent with the approved interim 208 outputs. The scope and funding of new facility planning should not extend to preparing a justification for the interim 208 outputs. This justification already will be available from the areawide planning process.

The following will be the policy after the areawide plan has been completed and approved, and the agency or agencies identified to construct, operate and maintain the municipal treatment facilities required by the plan:

a. All facility plans underway at the time of approval will be completed by the agency which received the grant for the facility planning. The planning effort will continue as before approval unless the analysis in the approved 208 plan clearly justifies a change in required treatment levels or alternative approach on the basis of lower costs or major changes in environmental impacts.

b. The scope and funding of new facility plans started after approval of the areawide plan will be sufficient to supplement the data and analysis in the areawide plan to the extent necessary to provide a complete facility plan as required by Section 35.917 of the construction grants regulation (Appendix B).

c. New grants for facility plans will be made to the management agencies designated in the approved areawide plans. New facility planning will be consistent with the approved areawide plan.

1.2.3 Municipal Permits

Facility plans must, as a minimum, conform with all applicable permit requirements, and include a copy of the permit. Where a permit has not been issued, the facility plan should describe the applicable Federal and State effluent limitations. These limitations, if not known, should be obtained from State officials and the Environmental Protection Agency.

1.2.4 State Responsibilities

States play a central role in management of facility planning. The States' responsibilities are as follows:

a. To prepare a State priority list for construction grants based on a determination of where and when treatment works will be required (see reference b).

b. To determine, through the basin planning process, the effluent limitations which must be met by publicly-owned treatment works to comply with applicable requirements of Federal, State and local law.

c. To delineate, on a preliminary basis, the boundaries of the facility planning area. These boundaries may be adjusted as a result of information obtained during the facility planning process.

d. To review the plan of study to ensure that (1) the geographic planning area is adequate, (2) the nature and scope of the planning tasks are properly defined and cover only essential works, and (3) planning costs are reasonable.

e. To review facility plans and certify that (1) the plans conform with the requirements of the construction grants regulation (Appendix B); (2) the plan conforms with any existing final basin plans approved under section 303(e) of the Act; (3) any concerned areawide planning agency has been afforded the opportunity to comment on the plan; and (4) the plan conforms with any areawide treatment management plan completed and approved in accordance with section 208 of FWPCA.

2. FACILITY PLANNING AREA

The facility planning area for new wastewater treatment systems should be large enough to analyze the cost-effective alternative methods of waste transport, treatment, handling and disposal of sludge and disposal of treated effluent. It also should be large enough to analyze the environmental effects of alternatives, as required by the regulation, "Preparation of Environmental Impact Statements" (reference a). This regulation requires an environmental assessment as an integral part of a facility plan.

Note, however, that facility planning shall be conducted only to the extent that the Regional Administrator determines to be necessary to meet these requirements and to permit reasonable evaluation of grant applications and subsequent preparation of design construction drawings and specifications (see Section 35.917-4 of the Construction Grants Regulation in Appendix B).

An applicant for a facility planning grant need not hold current legal authority to implement all aspects of a facility plan as it may eventually develop. He must, however, have both the legal ability and the practical expection of acquiring such authority at the proper point in the grants process. The proper time, in many cases, will be after the final waste management alternative has been chosen near the conclusion of the facility plan.

3. PLAN OF STUDY (POS)

The Plan of Study (POS) must be prepared and approved by the State and EPA before a facility plan is begun, and before a Federal grant may be approved for a facility plan (see Section 35.920-3 in Appendix B). The POS should briefly (generally in ten pages or less) describe the scope, schedule and costs of the proposed facility plan. The POS should:

a. Provide a map or maps showing the planning area; the SMSA; the boundaries of political jurisdictions; boundaries of streams, lakes, water impoundments and water basins; and the service areas of existing waste treatment systems.

b. List the responsible planning organizations and agreements or resolutions for conducting joint planning, if any.

c. Provide the 1970 population in the planning area.

d. Describe briefly why a grant for facility construction is necessary, including water quality problems and applicable effluent limitations if this information is readily available.

e. Summarize briefly the unit processes in the existing system, if any, and communities and major industries served.

f. Describe data, plans and other information available to assist with facility planning.

g. Say if the State is expected to certify that "excessive infiltration/inflow" does not exist (see part 4.2.4 below); or that additional data collection may be necessary. If the applicant believes that "excessive infiltration/inflow" exists and a detailed sewer evaluation will be necessary, the Plan of Study should so state.

h. Provide a schedule for completion of the specific tasks necessary to prepare the facility plan.

i. Estimate the cost for each task and the total costs for the facility plan.

4. FACILITY PLAN

A facility plan can be prepared in seven major steps. Each step is discussed in a separate section below, along with recommendations on how it can be completed. The applicability of these recommendations will vary with local circumstances.

Environmental considerations should be addressed during facility planning to meet the requirement for an environmental assessment of each project (see reference a). For example, information on existing and future environmental conditions should be gathered and assessed along with the information on other aspects of the existing and future situation (see section 4.2 and 4.3). Alternatives should be evaluated for environmental impact at the same time they are evaluated for costs and other impacts (see section 4.4). A separate section of the facility plan, however, should summarize the environmental considerations to demonstrate that they have been adequately covered and provide a single point of reference for a person interested in reviewing the environmental analysis. (See Part 7 of this Guidance.)

4.1 Step 1: Effluent Limitations

The facility plan should list the effluent limitations applicable to the facility being planned. These effluent limitations normally may be found in a municipal permit issued under the National Pollutant Discharge Elimination System. A copy of the municipal permit should be attached to the plan.

If the facility is on a "water quality limited" waterway (see section 1.2.1 above), the applicable water quality standards should be obtained from the State and briefly summarized in the plan, in addition to the effluent limitations necessary to meet the applicable water quality standards.

4.2 Step 2: Assess Current Situation

4.2.1 Introduction

The facility plan should briefly describe the existing conditions to be considered when weighing alternatives during the facility planning process.

4.2.2 Existing Conditions in the Planning Area Without the Project

The following existing conditions should be described to the extent necessary to analyze alternatives and determine the environmental impacts of the proposed actions. Only conditions which are applicable to the project should be discussed.

a. Planning area description. planning area boundaries, political jurisdictions and physical characteristics, including climate, geology, soils, topography and hydrology.

b. Organizational context. the role of all organizations involved in planning, financing and operating publicly-owned waste treatment works in the planning area.

c. Demographic data. the 1970 census population, land-use patterns, and major employment generating activities.

d. Water quality. existing quality, quantity, and uses of surface and ground water.

e. Other existing environmental conditions. air quality, noise levels, energy production and consumption, wetlands, flood plains, coastal zones and other environmentally sensitive areas, historic and archaeological sites, other related Federal or State projects in the area, and plant and animal communities which may be affected, especially those containing threatened or endangered species.

Sources of information used to describe the existing environment and to assess future environmental impacts should be cited.

4.2.3 Existing Wastewater Flows and Treatment Systems

An inventory of existing wastewater treatment systems should be provided, including services, treatment plants, effluent disposal or reuse methods, sludge disposal methods, and flow and waste reduction measures currently being used, if any.

The discussion of flows should include average and peak wastewater flows, wastewater characteristics and wasteloads at key points in the system, dry and wet-weather flows, combined sewer overflows, and the location of bypasses. Available data on industrial and commercial flows should be summarized.

4.2.4 Infiltration and Inflow

The construction grants regulation (Appendix B) provides that the State may certify that excessive infiltration/inflow does not exist. The certification may be based on studies or other information available on the sewer system before facility planning begins, or gathered in the course of the facility planning process.

When the certification cannot be made because information is inadequate, an infiltration/inflow analysis should be conducted in accordance with EPA "Guidance for Sewer System Evaluation" (reference t). The purpose of the analysis is to estimate infiltration/inflow into the system; to approximate, on a preliminary basis, the costs of treating the infiltration/inflow versus the costs of rehabilitating the sewer system to eliminate the problem; and finally, to determine if the infiltration/inflow is excessive, as defined in reference t.

If the infiltration/inflow analysis demonstrates the existence or possible existence of excessive infiltration/inflow, a sewer system evaluation survey should be conducted, in accordance with reference t, to analyze the problems in more detail and determine needed corrective actions and their costs.

4.2.5 Performance of Existing System

The performance of existing wastewater treatment facilities should be evaluated to determine their operational efficiency. The evaluation should compare existing performance with optimum performance obtainable in terms of effluent quality and treatment capacity. The effect of the following factors on performance should be considered.

a. Adequacy of plan design.

b. Quality of operation and control.

c. Caliber and number of operating personnel.

d. Adequacy of sampling and testing program.

e. Adequacy of laboratory facilities, and

f. Quality of maintenance program.

4.3 Step 3: Assess Future Situation

4.3.1 Planning Period

The planning period is the time span over which wastewater management needs are forecast, facilities are planned to meet such needs, and costs are amortized. The facility planning period should extend 20 years beyond the date when the planned facility is scheduled to begin operation. The most cost-effective plan may provide for phasing construction of operable parts of the facility to meet changing conditions over the planning period.

Phased construction of treatment plants, in particular, will often be the most cost-effective approach. Consideration should be given to initial construction of a plant with a capacity to handle the wastewater flows projected for only a part of the 20 years planning period. The plan should provide in this case for adding more capacity later to treat the remaining increase in wastewater flows projected for the rest of the planning period.

Wastewater flows may be projected for years beyond the 20 year planning period when determining the most cost-effective design for interceptor sewers. Design flows must be fully justified in the facility plan.

4.3.2 Land Use

The facility plan should be carefully coordinated with applicable State, local and regional land-use management regulations, policies and plans. Projected land-use patterns and densities should be used as one basis for determining the optimum capacity and location of facilities.

Where land use plans have not been prepared for all or part of the planning area, an estimate of future land use patterns and densities should be prepared in consultation with existing planning agencies, zoning commissions and public officials.

Careful consideration should be given before providing sewerage for areas subject to flood hazards. The facility plan should be compatible with State and local programs for flood plain management.

4.3.3 Demographic and Economic Projections

Projections of economic and population growth should be used as one basis for estimating future wasteloads and flows.

For SMSAs, economic and population projections should follow the work of the Bureau of Economic Analysis incorporating the "Series E" projections of the Census Bureau. Reasons for departures should be fully documented.

Projections of economic and population growth for non-SMSA communities may be based on extension of current (1960 or 1965 to present) growth trends. Economic projections of industrial employment may assist with projections of population growth.

All projections should be consistent with those used for control of air quality, water resources management, and other environmental programs unless new information and analysis justify departures. Reasons for any departures should be documented.

Projections should be adjusted to reflect constraints on growth imposed by air quality implementation plans and land-use and development controls.

4.3.4 Forecasts of Flow and Wasteloads

The following factors should be considered when estimating wasteloads and flows for the future:

a. projections of economic and population growth

b. an estimate of non-excessive infiltration/inflow

c. analysis of pollutant content and flows in the existing system.

d. an analysis of the rate, duration, pollutant content and location of combined sewer overflows in the existing system during storms of different magnitude. The analysis should be linked to the drainage area tributary to the combined sewer system. This would facilitate forecasting of flow and wasteload increases from future changes in the nature and extent of the drainage area.

e. projection of future changes in flow and wasteloads from industries to be served by the municipality. This projection should take into account reductions in industrial flow and waste which will result from Federal, State and local pretreatment requirements and from imposition of user and cost recovery charges.

f. projection of gains possible from selected measures to reduce flow and wastes.

4.3.5 Future Environment of the Planning Area Without the Project

The future environmental conditions for the delineated planning area under the "no project" alternative should be predicted, covering the same areas considered under Section 4.2.2.

4.4 Step 4. Develop and Evaluate Alternatives

4.4.1 Baseline: Optimum Operation of Existing Facilities

The alternative of optimizing performance of existing facilities should be considered first. The level of treatment attainable with optimum performance should serve as a baseline for planning additions or modifications to the treatment system.

4.4.2 Regional Solutions

The possibility of a regional solution to wastewater treatment problems should be explored early in the planning process to reduce the number of options requiring detailed consideration to a manageable number. Regional solutions may include interconnection of facilities, construction of one or more large facilities to eliminate the need for many small facilities and joint management of facilities to improve operation and maintenance and reduce costs. Joint facilities may involve interceptors, treatment plants and sludge and effluent disposal systems.

Existing plans which address regional options should be referenced and important conclusions summarized in the facility plan. Further analysis of options will not be necessary if regional questions are resolved by existing plans.

Where regional questions have not been resolved, discharge combinations and effluent limitations related to each combination should be estimated by the applicant or the State. Any simplifying assumptions needed for such preliminary analyses should be documented. Monetary costs and environmental impacts should be estimated.

The analysis of regional solutions should address the following special considerations:

a. effects of interceptor location on land use within and between urban areas, particularly where land is undeveloped.

b. effects of alternative combinations on stream flows in the regions.

c. possible limitation on future expansion due to unavailability of land.

d. differences in reliability, operation and maintenance of facilities.

e. environmental and economic costs of delays likely to be associated with efforts to achieve a regional solution.

A map of treatment system configurations should be prepared on the basis of the above analysis. It should show the boundaries of political jurisdictions and service areas for each treatment plant.

4.4.3 Alternative Waste Treatment Systems

Alternative waste treatment systems for each service area should be considered in addition to the regional questions outlined above.

First, the implication of the "no action" plan should be set forth with respect to potential effects on:

a. surface water quality

b. groundwater quality (if applicable)

c. land use limitation if "no action" alternative is selected

d. socio-economic factors (e.g., residential, industrial development and health hazards).

Second, the plan should consider, where applicable, the primary options for:

a. flow and waste reduction

b. configuration of sewers and interceptors

c. treatment and disposal of effluent

d. sludge disposal.

Options should be rejected from the outset if they fail to meet physical constraints of the planning area, such as climate, soils or topography, or if they are incompatible with air and water quality plans. These options should be presented in the plan, however, with a very brief summary of the reasons for their rejection.

Alternative waste treatment systems must be considered in accordance with information included in references o and s. The following three alternatives must be considered, as a minimum, to meet the requirements for best practicable waste treatment technology:

a. treatment and discharge of effluent

b. treatment and reuse

c. land application

Options for treatment and discharge should, as appropriate, take into account and allow to the extent practicable for the application of technology at a later date to provide for the reclaiming or recycling of water or otherwise eliminate the discharge of pollutants.

Following initial screening of the alternative systems, a limited number of the most feasible options should be evaluated in detail. The evaluation should follow the guidance on monetary costs in Chapter 6 and on environmental and other considerations in the remainder of this chapter.

Proposals should be re-evaluated and compared after refinement and estimation of monetary costs, environmental effects and other considerations. Features should be added where practicable to each alternative to offset or mitigate adverse environmental impacts. Each alternative, including its costs and environmental effects, will then be displayed to inform the public and solicit public opinions to help select a plan.

4.4.4 Environmental Impacts

4.4.4.1 General

Alternatives should be evaluated and screened for their environmental impacts. Adverse impacts could be a basis for rejecting an option and, thus, reducing the number of alternatives. Other impacts may require further study and should be identified, to the extent possible, early in the planning process.

The evaluation should assess both beneficial and adverse primary and secondary environmental impacts. A definition and examples of each type follows:

4.4.4.2 Primary Impacts

Primary impacts are those directly related to construction and operation of the treatment works. Some examples are:

a. Destruction of historical, archaeological, geological, cultural or recreational areas during construction.

b. Destruction of sensitive ecosystems including wetlands and the habitats of endangered species during construction.

c. Damage and pollution of surface waters due to erosion during construction.

d. Displacement of households, businesses or services.

e. Noise pollution, air pollution and odor and public health problems associated with construction and operation.

f. Direct violation during construction or operation of Federal, State or local environmental and land-use statutes, or regulations and plans imposed by such statutes and regulations.

4.4.4.3 Secondary Impacts

Secondary impacts of a project are (1) indirect or induced changes in the patterns of land-use and population growth, and (2) other environmental effects resulting from changes in land use and population growth.

Examples of secondary impacts are:

a. changes in the rate, density, or type of development, including residential, commercial, industrial development, or changes in the use of open space or other categories of land.

b. air, water, noise, solid waste or pesticide pollution stemming from the induced changes in population and land use.

c. damage to sensitive ecosystems (wetlands, habitats of endangered species) and environmentally protected areas (parks, historic sites) resulting from changes in population and land use.

Primary attention in the environmental assessment should be given to determining if secondary impacts will possibly contravene environmental and land use statutes or regulations, or standards, limitations and plans imposed by such statutes and regulations. Relevant Federal, State and local environmental and land use statutes and regulations should be considered.

4.4.5 Additional Guidance on Evaluation of Alternatives

4.4.5.1 Institutional Arrangements

Evaluation of alternatives should include a comparison of existing institutional arrangements and authorities with those necessary to implement each option. The organization to be responsible for management of the waste treatment facilities also should be identified with each option. Further, the costs to each jurisdiction for construction, operation and maintenance of the facilities should be estimated. These matters, as well as the total costs and effects of each proposal, should be discussed with representatives of local government units, and the views of other interested parties solicited during public review.

4.4.5.2 Industrial Service

Industrial use of municipal facilities should be encouraged when environmental and monetary costs would be minimized. Costs of separate treatment of industrial waste should be compared with costs of pretreatment plus the cost to the municipality for joint treatment, when industrial flow to be handled by municipal systems is significant. Pretreatment is required in accordance with Federal pretreatment standards (reference g) and any existing State and local standards. The analysis should focus on those industries which desire municipal service but are not yet so served when facility planning is initiated.

4.4.5.3 Flow and Waste Reduction

Some types of flow and waste reduction measures are listed below:

a. measures for reducing sewer system infiltration/inflow

b. household water-saving devices

c. water meters

d. land use and development regulations

e. industrial reuse and recycling

f. on-site (private) facilities such as septic tanks

Procedures for determining the cost effectiveness of measures for reducing infiltration/inflow are found in EPA "Guidance for Sewer System Evaluation" (reference t). The cost-effectiveness of water conservation measures can be determined by comparing the cost with resultant savings for both waste treatment and water supply.

4.4.5.4 Sewers

Alternative arrangements of interceptors and trunk lines should be compared to determine the most cost-effective configuration. Sewers in developing areas should be planned on the basis of anticipated changes in land use and density.

Analysis should be made, whenever possible, of the residential, commercial and industrial land use changes that a centralized project will induce.

The sizes of interceptors should be based on cost-effective analysis of alternative pipe sizes. The analysis should reflect the expected useful life of the pipe, all costs related to future pipe installation, and induced growth effects of initial provision of substantial excess capacity.

4.4.5.5 Sludge Disposal

Environmentally acceptable methods of sludge utilization and disposal include stabilization and subsequent land application for

agriculture, enhancement of parks and forests, reclamation of poor or damaged terrain, sanitary land fill, or sludge incineration and disposal of resulting ash. Ocean disposal may be allowed under special circumstances (subject to reference k).

4.4.5.6 Location of Facilities

Evaluation and choice of sites for treatment plants, interceptors, transmission lines, outfalls, pumping stations, and other major works should take into account the factors cited below and discussed further in references p, q, and y.

a. minimize odors and locate away from residential areas which would be affected by odors

b. minimize aesthetic problems by design and landscaping

c. locate outfalls where they will not affect public water supply, shellfishing beds, and contact recreational waters. Where alternative sites are unavailable, special precautions must be taken in accordance with references p and y.

d. locate treatment plants and other facilities in general outside of floodplains. Where such locations are not practicable or would lead to excessive costs, the plant and equipment will be protected against flooding as described in reference p.

4.4.5.7 Revision of Wasteload Allocation

Wasteload allocations are the basis for determining effluent limitations to be achieved by a treatment plant. They are normally prepared as part of the State basin planning process and are reflected in the discharge permit. Facility planning may result in a change in the discharge locations and the wasteload distribution among the locations. The wasteload allocation, in this case, should be reviewed by the State or EPA and modified to reflect the configuration of discharges in the proposed plan.

4.4.5.8 Phased Construction

Adding capacity in phases during a planning period will be more cost-effective in some cases than providing sufficient capacity in initial construction for the entire planning period. A method for cost analysis of phased development is discussed in Chapter 6. Factors to be considered are:

a. relative cost of providing excess capacity initially compared with the present worth of deferred costs for providing capacity when needed.

b. uncertainties of projected long-term wastewater flows, and possible technological advances or flow and waste reduction measures which may limit need for excess capacity.

Modular development of operable components of a treatment plant is advisable in areas where high growth rates are projected, where treatment must become more stringent later in the planning period, or where existing facilities are to be used initially but phased out later.

4.4.5.9 Flexibility

Facility planning should consider providing sufficient land and choosing layouts and siting to allow for expansion of the plant to handle unforeseen increases in wastewater flows and required treatment levels.

Interceptors and collection systems may be planned to meet unforeseen expansions of the service area. Consideration should be given, for example, to obtaining extra sewer rights-of-way for staged parallel pipes and pipe extensions and temporary treatment plants.

4.4.5.10 Reliability

Emphasis on reliability should focus on the most critical processes in accordance with the requirements in reference p.

4.5 Step 5. Select Plan

4.5.1 Selection Process

The public should be provided with alternative proposals, and a public meeting or hearing held to explain each proposal and obtain the views of all concerned (see Chapter 5). The opinions expressed should be weighed with estimated environmental effects, monetary costs, feasibility, resources and energy use, and reliability. The alternative proposals should be ranked on the basis of these considerations and a plan selected. Additional guidance on selection of a plan is provided in Chapter 8.

4.5.2 Environmental Impacts of the Selected Plan

The primary and secondary impacts of the selected plan should be summarized. Special attention should be given in the summary to the following:

a. Any unavoidable adverse impacts resulting from the project.

b. Relationship between local short term uses of the environment and the maintenance and enhancement of long-term productivity. This should include a description of the extent to which the action involves tradeoffs between short term environmental gains at the expense of long term gains or vice-versa, and the extent to which the proposed action forecloses future options. Special attention should be given to effects which narrow the range of future uses of land and water resources or pose long-term risks to health or safety.

c. Irreversible and irretrievable commitments of resources. An evaluation should be made of the extent to which the proposed action requires commitment of construction materials, man-hours, energy and other resources, and curtails the range of future uses of land and water resources.

d. Steps to minimize adverse effects. Structural and nonstructural measures, if any, should be described to mitigate or eliminate significant adverse effects on the human and natural environments.

4.6 Step 6: Preliminary Design of Treatment Works

Preliminary engineering designs will be prepared in accordance with references p, q, and y for those treatment works proposed for initial construction and scheduled for preparation of drawings and specifications. Such information would include, as appropriate, a schematic flow diagram, unit processes, plant site plans, sewer pipe plans and profiles, and design data regarding detention times, flow rates, sizing of units and so forth. It would also include a summary of requirements for operation and maintenance of the treatment works. Cost estimates for final design, preparation of plans and specifications, and construction of the treatment works, together with a schedule for completion of all such work, should be presented.

4.7 Step 7: Arrangements for Implementation

Following selection of plan and design, existing institutional arrangements should be reviewed and a financial program developed, including preliminary allocation of the costs among various classes of users of the system (see Appendix B). Agreement should be reached among participating entities on arrangements for implementing the plan. The State and Regional Administrator may approve the plan, however, even in the absence of final agreement on such arrangements.

A preliminary plan of operation should be prepared to provide for staffing, management, training, sampling and analysis for effective operation and maintenance of the facility.

5. PUBLIC PARTICIPATION

5.1 Introduction

Minimum requirements for the public role in facility planning are described in the Construction Grants regulation (Appendix B) and the regulation entitled "Public Participation in Water Pollution Control" (reference f). The public should participate from the beginning in facility planning so that interests and potential conflicts may be identified early and considered as planning proceeds.

5.2 Relationships between Planner and Public

The planner should define issues and analyze information so that the public will clearly understand the costs and benefits of alternatives considered during the planning process. He also should ensure that the interests of a broad spectrum of the public are represented in the planning process.

The public can be involved through a variety of means, including the following:

-advisory groups	-public hearings	-news media
-information contacts	-task forces	-speeches
-correspondence	-workshops	-seminars
-interviews	-exhibitions	-depositions
-liaison with citizen groups	-mailings	-surveys
-public meetings	-newsletters	-polls

5.3 Requirement for Public Hearings

A public hearing must be held on the facility plan unless EPA has waived the requirement in advance (see section 35.917-5 of Appendix B). The location of the hearing should be easily accessible and facilitate attendance and testimony by a cross-section of interested or affected organizations and interests. Notice will generally be given at least

thirty calendar days before the hearing is to be held to obtain formal comments of all concerned interests on the alternative proposals. It is suggested that the notice include mention of where information on the facility plan may be obtained before the hearing.

5.4 Summary of Public Participation

A report summarizing public participation should be prepared and submitted as part of the facility plan. It should as a minimum contain a brief description of the views expressed at any public hearings held on the project. It also may describe other measures taken to provide for, encourage concerned interests; and the disposition of the issues raised.

6. EVALUATION OF COSTS

6.1 Introduction

Appendix A to the construction grants regulation (see Appendix B in this guidance) describes basic methodology for calculation of direct monetary costs. This chapter provides supplemental guidance for applying this methodology in practice.

6.2 Sunk Costs

Appendix A to the construction grants regulation provides comprehensive instructions for cost evaluation, except with respect to sunk costs. Any investments or commitments made prior to our concurrent with facility planning will be regarded as sunk costs and not included as monetary costs in the plan. Such investments and commitments include:

a. investments in existing wastewater treatment facilities and associated lands even though incorporated in the plan.

b. outstanding bond indebtness.

c. ost of preparing the facility plan.

6.3 Present Worth and Equivalent Annual Costs

The following examples show how to calculate present worth and equivalent annual costs for a project. Present worth may be thought of as the sum, which if invested now at a given rate, would provide exactly the funds required to make all necessary expenditures during the life of the project. Equivalent annual cost is the expression of a non-uniform series of expenditures as a uniform annual amount to simplify calculation of present worth. Detailed procedures for making these calculations are well known and explained in such books as Principles of Engineering Economy by Eugene L.

Grant and W. Grant Ireson (reference aa), and Economics of Water Resource Planning by L. Douglas James and Robert Lee (reference bb).

The three cases described below include: (1) a simplistic one, assuming constant O & M costs; (2) a case with varying O & M costs; and (3) a third case assuming varying O & M, phased construction and a positive salvage value. Note that the second and third cases actually compare two alternatives for treating a given community's waste.

In order to perform the following analysis, you will need a table of 7.0 percent compound interest factors and a table of factors to compute the present worth of a gradient series. These tables may usually be found in an engineering economics textbook.

The interest rate of 7.0 percent is used for these examples only. The actual interest rate which must be used for evaluating costs in a facility plan is published annually by the United States Water Resources Council (see reference 1).

6.4 Example 1: Constant O & M Costs

GIVEN:

sewage treatment plant #1
capacity: 10 mgd
average flow through plant: 9 mgd
planning period: 20 years
salvage value at the end of 20 years: $0
initial cost of plant: $3 million
average annual operation and maintenance cost: $190,000
interest rate: 7.0 percent

DETERMINE: Present worth and equivalent annual cost of this plant over 20 years.

METHOD: Present worth equals initial cost plus the present worth of the operating and maintenance costs. Equivalent annual costs equals the present worth times the appropriate capital recovery factor.

Step 1

Initial cost = $3,000,000

Step 2

Present worth of annual O & M cost equals annual O & M costs times the uniform series present worth factor @ 7.0% for 20 years. Thus:

$190,000 (10.594) = $2,013,000

Step 3

Sum of numbers obtained in the above steps yields present worth

initial cost =	$3,000,000
present worth of O & M cost =	$2,013,000
present worth =	$5,013,000

Step 4

To find equivalent annual cost, multiply present worth obtained above times the capital recovery factors @ 7.0% for 20 years. Thus:

$5,013,000 (.09439) = $ 474,000

is the average annual equivalent cost of the plant over 20 years.

6.5 Example 2: Varying O & M Costs

GIVEN:

sewage treatment plant #2
capacity: 10 mgd
average flow through plant: increase linearly from 2 mgd to 10 mgd over 20 years
planning period: 20 years
salvage value at end of 20 years: $0
initial cost of plant: $3,000,000
constant annual operation and maintenance cost: $126,000
variable annual operation and maintenance cost: increases linearly from $0 to $68,000 in year 20
interest rate: 7.0 percent

DETERMINE: Present worth and average annual equivalent cost of this plant over 20 years.

METHOD: Present worth equals the sum of initial cost, present worth of constant O & M cost, and the present worth of the gradient series of the variable O & M cost. Equivalent annual cost is derived as in the first case.

Step 1

Initial cost = $3,000,000

Step 2

To find the present worth of operating costs, it will be necessary to calculate the present worths of the constant costs and the variable costs separately.

a. Present worth of constant annual costs equals that cost times the uniform series present worth factor @ 7.0% for 20 years. Thus:

$126,000 (10.594) = $1,335,000

b. Present worth of a variable cost increasing linearly is found by first finding the amount of increase per year. This amount is $68,000/20 years or $3,400 per year. This increase is known as a gradient series. This series times the correct gradient series present worth factor @ 7.0% for 20 years yields the present worth of the variable cost. Thus:

$3,400 (77.5091) = $ 264,000

Step 3

Sum of numbers obtained in the steps above yields present worth:

initial cost =	$3,000,000
present worth of constant O & M costs	$1,335,000
present worth of variable O & M costs	$ 264,000
present worth =	$4,599,000

Step 4

As before, the present worth just derived times the capital recovery factor @ 7.0% for 20 years will yield the average annual equivalent cost. Thus:

$4,599,000 (.09439) = $ 434,100

which is the average annual equivalent cost of the plant for 20 years.

6.6 Example 3: Varying O & M Costs, Phased Construction, and Salvage Value

GIVEN:

sewage treatment plant #3
capacity: years 1-10, 5 mgd; years 11-20, 10 mgd
average flow through plant: increases linearly from 2 mgd to 10 mgd over 20 years
planning period: 20 years
salvage value at the end of 20 years: $750,000
initial cost of plant (5 mgd): $2,000,000
cost to upgrade at year 10 to 10 mgd: $1,500,000
operation and maintenance costs:

a. constant annual O & M cost, years 1-10: $84,000

b. variable annual O & M cost, years 1-10: increases linearly from 0 - $29,000 in year 10

c. constant annual O & M cost, years 11-20: $165,000

d. variable annual O & M cost, years 11-20: increases linearly from 0 to $29,000 in year 20

interest rate: 7.0 percent

DETERMINE: Present worth and annual equivalent cost of this plant over 20 years.

METHOD: Present worth is derived as in the previous example; however, this time calculate O & M costs from year 1 to 10 and O & M costs from year 11-20 separately. It is necessary also to add the present worth of the expansion and subtract the present worth of the salvage value from the present worth of the costs. Average annual equivalent costs are calculated as before.

Step 1

Initial cost = $2,000,000

Step 2

Calculate the present worth of the O & M costs as follows:

a. Present worth of constant annual cost years 1-10 equals given cost times uniform series present worth factors @ 7.0% for 10 years. Thus:

$84,000 (7.024) = $ 590,000

b. Present worth of the variable O & M costs years 1-10 equals the gradient series ($2900) times the present worth factor of a gradient series @ 7.0% for 10 years. Thus:

$2,900 (27.7156) = $ 80,400

c. The present worth of the constant O & M costs year 11-20 are first calculated as in (a) above using the given cost for years 11-20. This, however, yields present worth in year 11 which must be converted to present worth in year 1. This is accomplished by multiplying the present worth (year 11) times the single payment present worth factor @ 7.0% for 10 years (.5083). Thus, present worth in year 1 equals:

$165,000 (7.024)(.5083) = $ 589,100

d. The present worth of the variable O & M costs years 11-20 are first calculated as in (b) above using the gradient series for years 11-20 which is $2900. This yields the present worth in year 11 which again must be converted to present worth in year 1 by multiplying the present worth (year 11) times the single payment present worth factor @ 7.0% for 10 years (.5083). Thus:

$2,000 (27.7156)(.5083) = $ 40,900

Step 3

To determine the present worth of the upgrade cost which occurs at year 10, multiply the upgrade cost times the single payment present worth factors @ 7.0% for 10 years. Thus:

$1,500,000 (.5083) = $ 763,000

Step 4

The present worth of the salvage value at the end of 20 years equals that value times the single payment present worth factor @ 7.0% for 20 years. Thus:

$750,000 (.2584) = $ 194,000

Step 5

The sums of the values obtained in Steps 1, 2, and 3 minus the value obtained in Step 4 will equal the present worth of the plan. Thus:

initial cost =	$2,000,000
present worth of constant O & M year 1-10	590,000
present worth of variable O & M year 1-10 =	$ 80,400
present worth of constant O & M year 11-20 =	$ 589,100
present worth of variable O & M year 11-20 =	40,900
present worth of upgrade at year 10 =	$ 763,000
TOTAL	$4,063,400

Subtract from the total the present worth of salvage value

present worth of salvage value =	- $ 194,000
present worth of plant =	$3,869,400

Step 6

As before, the present worth just derived times the capital recovery factor @ 7.0% for 20 years will yield the average annual equivalent cost. Thus:

$3,869,400 (.09439) = $ 365,200

which is the average annual equivalent cost of the plant over 20 years.

7. ENVIRONMENTAL EVALUATION

7.1 Purpose

This part summarizes the requirements for evaluation of environmental impacts in the facility planning process and describes the reasons for these requirements.

The environmental evaluation serves two purposes:

a. to provide comparative data to assist selection of the best alternative plan.

b. to meet the requirements for an environmental assessment in the regulation published by EPA, "Preparation of Environmental Impact Statements" (reference a).

7.2 Facility Planning and the Environmental Assessment

The facility plan should contain sufficient information to meet the requirements for an environmental assessment in reference a. Environmental considerations should be addressed during each step of the facility planning process. A separate section of the plan, however, should summarize environmental considerations.

7.3 Environmental Impact Statements

The Regional Administrator may determine while the facility plan is in preparation or after it is completed and submitted to EPA for approval that the project is highly controversial or may have significant adverse environmental effects. EPA will prepare an environmental impact statement in these cases in accordance with the regulation, "Preparation of Environmental Impact Statements" (reference a). The applicant may be asked to provide supplemental information on the project to assist with preparation of the Environmental Impact Statement.

7.4 Environmental Considerations

The facility plan should contain a summary of environmental considerations. The summary should include references to other portions of the plan where these considerations are discussed in more detail.

The following are the major topics to be discussed in the summary:

a. Description of the existing environment without the project (see Section 4.2.2 in this Guidance).

b. Description of the future environment without the project (see Section 4.3.5).

c. Evaluation of alternatives (see Section 4.4.4).

d. Environmental impacts of the proposed action, including steps to minimize adverse effects (see Section 4.5.2).

8. PLAN SELECTION

8.1 Introduction

This chapter discusses the principal considerations for selecting a plan. It assumes that each of the alternatives being compared would, if implemented, result in compliance with all the applicable regulatory requirements (i.e., effluent limitations, load allocations, compliance schedules, and so forth).

8.2 Comparison and Ranking of Proposals

Plan selection will involve making choices among alternatives based on a display of the significant costs, effects and benefits of each. Common units are lacking for measuring environmental, social, economic and other costs, and therefore selection of the most cost-effective alternative requires careful judgment.

Figure 1 provides an example of how costs and effects may be displayed. The effects should be listed, wherever possible, in quantitative terms, and be based on the supporting analysis elsewhere in the plan. Where quantification is not possible, the comparison should be made by brief narrative description.

The alternatives may be ranked after they are displayed to aid final selection of a plan.

The following are suggestions on the ranking procedure:

a. Environmental effects: All significant primary and secondary effects should be weighed to derive a value judgment as to the net overall effect of each alternative relative to other plans. Alternatives which have secondary effects with a high potential for contravening an environmental or land-use statute or regulation, or plan imposed by such statute or regulation should be ranked below those which do not.

b. Monetary costs: Total costs should be the primary factor in determining the cost-effectiveness of the plan.

c. Implementation capability: The ability of and agreement among the State, regional and local governmental units or management agencies to implement the alternatives should be weighed carefully. The necessary institutions must exist or be created in time to carry out the plan, and the local governmental unit must be capable of bearing the local share of the costs.

d. Other considerations: Each plan must meet applicable regulatory requirements, and design and reliability criteria. Performance better than these minimal standards should not be taken into account when selecting an alternative unless environmental and monetary costs and benefits, and the feasibility of implementing the alternatives are roughly equal. Other considerations, in other words, may be used to break ties.

These other considerations include the contribution to water quality objectives beyond regulatory requirements, reliability, use of resources and energy, and public acceptability.

Figure 1

COSTS AND BENEFITS OF ALTERNATIVE PROPOSALS

	PROPOSALS			
	A	B	C	D
1. Environmental Effects				
a. Primary				
b. Secondary				
2. Monetary Costs				
a. Capital costs				
1. public				
2. total				
b. O & M costs				
1. public				
2. total				
c. Net revenue (public)				
d. Average annual costs				
1. public				
2. total				
3. Implementation Capability				
a. Institutional				
b. Financial				
c. Legal				
4. Other considerations				
a. Contributions to Water Quality Objectives and Other Water Management Goals				
b. Energy and Resources Use				
1. Energy (power)				
2. Chemicals				
3. Land commitment for planned features				
c. Reliability				
1. Frequency of plant upsets				
2. Frequency of spills				
3. Frequency of effects of combined sewer overflows				

9. FORMAT FOR SUBMISSION OF PLAN

9.1 Outline of Plan

The following outline for the plan is suggested. It meets the requirements of the Construction Grants regulation (Appendix B) and follows the planning steps presented in this guidance. Items inapplicable to a specific case may be deleted.

1. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

2. INTRODUCTION

   2.1 Study Purpose and Scope
   2.2 Planning Area (Map)

3. EFFLUENT LIMITATIONS (Section 4.1)

4. CURRENT SITUATION (Section 4.2)

   4.1 Conditions in Planning Area

      4.1.1 Planning area description
      4.1.2 Organizational context
      4.1.3 Demographic and land-use data
      4.1.4 Water quality and uses
      4.1.5 Other environmental conditions

   4.2 Existing Wastewater Flows and Treatment Systems
   4.3 Infiltration and Inflow
   4.4 Performance of Existing System

5. FUTURE SITUATION (Section 4.3)

   5.1 Land Use
   5.2 Demographic and Economic Projections
   5.3 Forecast of Flow and Waste Load
   5.4 Future Environment of the Planning Area Without the Project

6. ALTERNATIVES (Section 4.4)

   6.1 Optimum Operation of Existing Facilities
   6.2 Regional Solutions
   6.3 Waste Treatment Systems
   6.4 Evaluation (monetary, environmental, implementation)

7. PLAN SELECTION (Section 4.5)

   7.1 Views of Public and Concerned Interests on Alternatives
   7.2 Evaluation and Ranking of Proposals
   7.3 Selected Plan (major feature summary) and Reasons for Selection
   7.4 Environmental Impacts of Selected Plan

8. COST ESTIMATES, PRELIMINARY DESIGNS (Section 4.6)

   8.1 Description of Design, with Maps
   8.2 Summary of Cost Estimates

9. ARRANGEMENTS FOR IMPLEMENTATION (Section 4.7)

   9.1 Institutional Responsibilities
   9.2 Implementation Steps
   9.3 Operation and Maintenance
   9.4 Financial Requirements

10. SUMMARY OF ENVIRONMENTAL CONSIDERATIONS (Section 7)

   10.1 Existing Environmental Conditions
   10.2 Future Environment Without the Project
   10.3 Evaluation of Alternatives
   10.4 Environmental Effects of Selected Plan

9.2 Appendices

The following information, cross-referenced in the text of the plan, may be placed in appendices:

a. Preliminary designs, technical data and cost estimates for alternatives.

b. Agreements, resolutions and comments.

c. Supplemental engineering feasibility data on the details of the adopted plan.

d. Infiltration/inflow analyses.

e. Sewer evaluation surveys.

f. Copy of the permit for the facility.

For a simple planning situation, the information included in items (a) and (c) may be incorporated in the main report.

The technical appendices (item c above) should include, but not necessarily be limited to:

a. description of the configuration of collector and interceptor systems, profiles, sizes and cost breakdowns.

b. treatment plant data, including site plan, layouts of unit processes, flow charts, design and performance data.

10. REVIEW, CERTIFICATION AND APPROVAL OF PLANS

10.1 Purpose

This chapter describes the administrative procedures and requirements for submission of a facility plan (and revisions thereof) to State receiving agencies and to EPA. It also describes the actions States and EPA take on the plan.

10.2 Three Levels of Review

The three levels of review of a facility plan are as follows:

a. review by a clearinghouse of interested agencies at the local level as required by Circular A-95, "Federal and Federally Assisted Programs and Projects", of the Federal Office of Management and Budget (reference z).

b. review by the State for compliance with State requirements, and Federal statutory and regulatory requirements.

c. review by EPA for compliance with Federal requirements.

10.3 Compliance with OMB Circular A-95

EPA will not conduct a final review of an application for a grant to conduct facility planning or completed facility plans for approval unless the agency submitting the grant application or plan to the State and EPA has first complied with all applicable requirements of OMB Circular A-95 (reference z).

10.4 Submission to State

The agency desiring review and approval of a facility plan shall submit the following documents to the State Water Pollution Control Authority or its equivalent:

a. Four (4) copies of the facility plan

b. Two (2) copies of all relevant documents required by OMB Circular A-95

c. One (1) original and one (1) copy of a letter from the chief official of the agency preparing the plan. The letter should request review and approval and state:

1. that the agency has met all requirements for public participation relating to the plan;

2. the names of all jurisdictions within the planning area which either oppose the plan or have failed to approve the plan.

10.5 Submission to EPA

EPA will review for approval only those facility plans which have received State approval and are properly submitted to the appropriate regional office by the chief official of the State Water Pollution Control Authority having jurisdiction over the planning area. The following documents should be submitted to EPA by the State:

a. a letter signed by the chief official of the State Water Pollution Control Authority requesting review and approval, and certifying that:

1. the plan conforms with the requirements of the construction grants regulation (Appendix B)

2. the plan conforms with the applicable basin plan prepared or being prepared in accordance with reference i.

3. the concerned areawide planning agency, if any, has been afforded the opportunity to comment on the plan, and the plan conforms with any completed areawide plan which has been approved in accordance with the requirements of section 208 of FWPCA.

b. Two (2) copies of the plan

c. One (1) copy of the letter from the local agency to the State required under paragraph 10.4 above.

10.6 Revisions to Plans

Facility plan should be reviewed regularly and brought up to date as required by changing conditions. As a minimum, a facility plan which has served as the basis for award of a Step 2 or 3 grant shall be reviewed by the State prior to application for any subsequent Step 2 or 3 grant to determine if substantial changes have occurred which warrant revision or amendment of the plan. The plan should then be revised or amended as necessary.

Revisions to the plan should be accompanied by a statement on the status of implementation of the plan as of the date of the revision. The appropriate EPA Regional Administrator, A-95 Clearinghouse, and State should be notified at least 30 days in advance of initiating a modification to a plan. Processing of revised plans will follow the procedures as outlined above.

10.7 EPA Review

The review by EPA will ascertain that the requirements of FWPCA and applicable amendments are met, including specific determination that:

a. the plan is consistent with existing State and NPDES permits.

b. the plan is consistent with the requirements of the applicable final plan prepared under reference i, "Preparation of Water Quality Management Basin Plans."

c. the plan is consistent with any completed areawide plan approved in accordance with section 208 of FWPCA.

d. all requirements for public participation have been met.

e. the plan will provide for secondary treatment, as a minimum, as well as appropriate application of Best Practicable Waste Treatment Technology in accordance with technical criteria established by EPA, or for more stringent treatment levels required to meet water quality standards.

f. the plan is cost-effective and environmentally sound.

g. excessive infiltration/inflow does not exist, or that a detailed sewer evaluation survey and necessary sewer rehabilitation measures will be accomplished in accordance with the Construction Grants regulation (Appendix B).

h. implementation of the plan is institutionally feasible within the time period proposed.

i. the plan is compatible with facility plans and completed and approved areawide plans developed for contiguous areas of other States.

j. the plan includes an adequate environmental assessment.

k. the treatment works will comply with applicable requirements of the Clean Air Act and other applicable environmental laws and regulations.

10.8 EPA Approval

The EPA Regional Administrator has authority to approve any facility plan submitted to him by a State within his region.

After review of a properly submitted plan or amendment and compliance with the requirements of the National Environmental Policy Act (see reference a), the EPA Regional Administrator will notify the chief official of the appropriate State Water Pollution Control Authority of his concurrence and approval, or the EPA regional office will work closely with the State to provide advice to the municipality on how the plan may be improved so that approval will be possible.

APPENDIX A - REFERENCES

APPENDIX A - REFERENCES

A.1 FEDERAL REGULATIONS

a. 40 CFR Part 6, "Preparation of Environmental Impact Statements," Federal Register, Vol. 40, No. 72, April 14, 1975, pp. 16811-16827

b. 40 CFR Part 35, Subpart B, "State and Local Assistance", Federal Register, Vol. 38, No. 125, June 29, 1973, pp. 17219-27225

c. 40 CFR Part 35, Subpart E, "Grants for Construction of Treatment Works--Federal Water Pollution Control Act Amendments of 1972", Federal Register, Vol. 39, No. 29, February 11, 1974, pp. 5252-5270

d. 40 CFR Part 35, Subpart E, Appendix A "Cost Effectiveness Analysis Guidelines", Federal Register, Vol. 38, No. 174, September 10, 19[illegible], pp. 24639-24640

e. 40 CFR Part 35, Subpart E, Appendix B "User Charges and Industrial Cost Recovery", Federal Register, Vol. 38, No. 161, August 21, 1973, pp 22524-22527

f. 40 CFR Part 105, "Public Participation in Water Pollution Control", Federal Register, Vol. 38, No. 163, August 23, 1973, pp. 22756-22758

g. 40 CFR Part 128, "Pretreatment Standards", Federal Register, Vol. 38, No. 215, November 8, 1973, pp. 30982-30984

h. 40 CFR Part 130, "Policies and Procedures for State Continuing Planning Process", Federal Register, Vol. 39, No. 107, June 3, 1974, pp. 19634-19639

i. 40 CFR Part 131, "Preparation of Water Quality Management Basin Plans", Federal Register, Vol. 39, No. 107, June 3, 1974, pp. 19639-19644

j. 40 CFR Part 133, "Secondary Treatment Information", Federal Register, Vol. 38, No. 159, August 17, 1973, pp. 22298-22299.

k. 40 CFR Part 220-227, "Ocean Dumping, Final Regulations and Criteria", Federal Register, Vol. 38, No. 198, October 15, 1973, pp. 28609-28621.

l. 18 CFR 704.39, "Discount Rate", Federal Register, Vol. 39, No. 158, August 14, 1974, p. 29242. (Published annually under this title by U.S. Water Resources Council)

m. 50 CFR Part 17, "Conservation of Endangered Species and Other Fish or Wildlife", Federal Register, Vol. 39, No. 3., January 4, 1974, pp. 1171-1177

A.2 EPA DOCUMENTS

o. "Alternative Waste Management Techniques for Best Practicable Waste Treatment", Technical Information Report, U.S. EPA, March 1974

p. "Design Criteria for Mechanical, Electric, and Fluid System and Component Reliability, Technical Bulletin, EPA-430-99-74-001

q. "Design, Operation and Maintenance of Wastewater Treatment Facilities", Technical Bulletin, U.S. EPA, September 1970

r. "EPA Policy to Protect the Nation's Wetlands", Administrators Decision Statement No. 4, Federal Register, Vol. 38, No. 84, p. 10834

s. "Evaluation of Land Application Systems", Technical Bulletin, EPA-430/9-75-001, March 1975

t. "Guidance for Sewer System Evaluation", U.S. EPA, March 1974

u. "Guidelines for the Preparation of Water Quality Management Plans", EPA, September 1974

v. "Manual for Preparation of Environmental Impact Statements for Wastewater Treatment Works, Facilities Plans, and 208 Areawide Waste Treatment Management Plans", U.S. EPA, July 1974

w. "Survey of Facilities Using Land Application of Wastewater", EPA-430/9-73-006, July 1973

x. Water Quality Strategy Paper, second edition, "A Statement of Policy for Implementing the Requirements of the 1972 Federal Water Pollution Control Act Amendments and Certain Requirements of the 1972 Marine Protection, Research and Sanctuaries Act", U.S. EPA, March 1974

y. "Protection of Shellfish Waters," Technical Bulletin, EPA 430/9-74-010, July 1974.

NOTE: A copy of the references listed in A.1 and A.2 may be obtained from the Regional Offices listed in Appendix C.

A.3 CIRCULARS, AND MISCELLANEOUS PUBLICATIONS

z. OMB Circular A-95, "Federal and Federally Assisted Programs and Projects, " Federal Register, Vol 38., No. 228, November 28, 1973

aa. Grant, E.L. and Ireson, W.G., Principles of Engineering Economy, 5th Edition, New York: Ronald Press, 1970.

bb. James, L.D., and Lee, R., Economics of Water Resources, New York: McGraw-Hill, 1971

APPENDIX B - CONSTRUCTION GRANT REGULATION

(See Section I, Regulation No. I-1, "Water Pollution Control, Construction Grants for Waste Treatment," issued by the U. S. Environmental Protection Agency.)

APPENDIX C - LIST OF REGIONAL OFFICES

APPENDIX C

Environmental Protection Agency
Region I
JFK Federal Building
Room 2203
Boston, Massachusetts 02203

Environmental Protection Agency
Region II
26 Federal Plaza
Room 908
New York, New York 10007

Environmental Protection Agency
Region III
Sixth and Walnut Streets
Philadelphia, Pennsylvania 19106

Environmental Protection Agency
Region IV
1421 Peachtree Street, N.E.
Atlanta, Georgia 30309

Environmental Protection Agency
Region V
230 South Dearborn Street
Chicago, Illinois 60604

Environmental Protection Agency
Region VI
1600 Patterson Street
Suite 1100
Dallas, Texas 75201

Environmental Protection Agency
Region VII
1735 Baltimore Avenue
Kansas City, Missouri 64108

Environmental Protection Agency
Region VIII
1860 Lincoln Street
Suite 900
Denver, Colorado 80203

Environmental Protection Agency
Region IX
100 California Street
San Francisco, California 94111

Environmental Protection Agency
Region X
1200 Sixth Avenue
Seattle, Washington 98101

GUIDANCE FOR

SEWER SYSTEM EVALUATION

MARCH 1974

Guidance For
Sewer System Evaluation

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1.0 INTRODUCTION

Extraneous water from infiltration/inflow sources reduces the capability of sewer systems and treatment facilities to transport and treat domestic and industrial wastewaters. Infiltration occurs when existing sewer lines undergo material and joint degradation and deterioration as well as when new sewer lines are poorly designed and constructed. Inflow normally occurs when rainfall enters the sewer system through direct connections such as roof leaders and catch basins. The elimination of infiltration/inflow by sewer system rehabilitation can often substantially reduce the cost of wastewater collection and treatment. However, a logical and systematic evaluation of the sewer system is necessary to determine the cost-effectiveness of any sewer system rehabilitation to eliminate infiltration/inflow.

The Federal Water Pollution Control Act Amendments of 1972 require that after July 1, 1973, all applicants for treatment works grants must demonstrate that each sewer system discharging into the treatment works is not subject to excessive infiltration/inflow. The requirement was implemented in the Rules and Regulations for Sewer System Evaluation and Rehabilitation, 40 CFR 35.927 (pages 9 and 10).

This document is intended to provide engineers, municipalities, and regulatory agencies with guidance on sewer system evaluation.

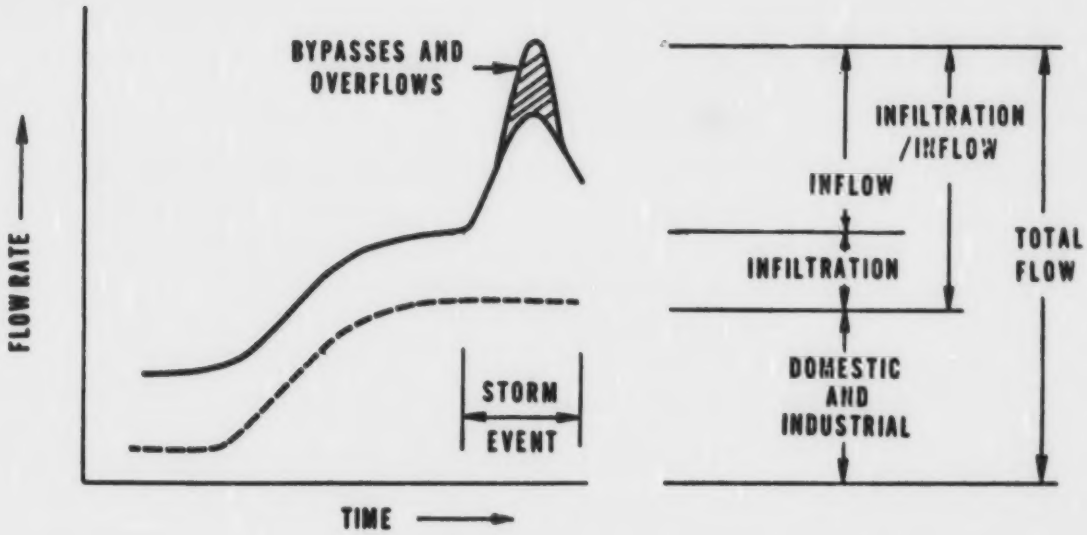
2.0 INFILTRATION/INFLOW ANALYSIS

The infiltration/inflow analysis should provide the information necessary to establish the non-existence or possible existence of excessive infiltration/inflow in the sewer system(s) and justify any proposed sewer system evaluation survey.

The analysis should include each sewer system tributary to the treatment works project. The sewer system(s) should not be limited by political jurisdictions or sewer types. The treatment works grant applicant is responsible for the entire sewer system evaluation and any rehabilitation to eliminate excessive infiltration/inflow. The sewer system included in the evaluation should originate at the wastewater sources, such as commercial buildings or private residences, and terminate at the wastewater facility.

The estimated flow rates of infiltration/inflow, infiltration and inflow entering the sewer system should be stated in the analysis. The following diagram identifies these terms:

INFILTRATION/INFLOW IDENTIFICATION (IDEALIZED)



LEGEND

——— FLOWS INCLUDING INFILTRATION/INFLOW

·---- FLOWS NOT INCLUDING INFILTRATION/INFLOW

The difference between the maximum domestic and industrial flow rate and total flow rate would represent the total infiltration/inflow entering the sewer system. The difference between the maximum domestic and industrial flow rate and the maximum flow rate during periods of high ground water (with no rainfall) normally represents the infiltration entering the sewer system. The amount of flow increase during storm events (including bypasses and overflows) normally represents the inflow entering the sewer system.

Data sources for the analysis should include maps, operation and maintenance records, observations by past and present municipal employees, and previous engineering reports. When complete flow records are not available, estimated flow rates may be computed from observed flow depths. Data presented in the analysis does not have to be based on absolute measurements. A physical examination of key manholes is normally conducted to obtain data for the analysis.

Estimated flow data should be related to rainfall intensity or other pertinent data. A rainfall and sewage flow hydrograph should be included in the analysis. Each bypassed flow and when possible overflows should be identified by location, cause, duration, quantity, frequency, rate and method of discharge from the system.

The total domestic and industrial wastewater flow rates and their relationship to water consumption plus the domestic wastewater flow per capita should be stated in the analysis.

A general description of the geographical and geological characteristics of the area served by the sewer system should be presented in the analysis. This description should include soil types, topography, rainfall data, known ground water levels and other pertinent information.

The general discussion of a sewer system in the analysis should include: the type of sewer system, i.e. sanitary or combined sewers; the known methods of sewer construction; the maximum, minimum, and average depth of the sewers; major known

sources of inflow; the structural condition, operation and maintenance practices, amount and type of deposits, degree of root intrusion, and other pertinent sewer system information; plus an evaluation of the probability of future decreases or increases in the quantities of infiltration/inflow.

A comparison of the cost estimates for transportation and treatment of the infiltration/inflow versus correction of the infiltration/inflow is normally sufficient to determine if infiltration/inflow is non-excessive or possibly excessive. Treatment costs should be based on achieving the effluent limitations that are or will be included in the NPDES permit(s) for discharges from the system.

When a sewer system has bypasses or overflows due to combined sewers and there is or will be no control or treatment required of the bypasses or overflows in the NPDES permit, treatment costs should be based on treatment of the total flow minus the bypasses or overflows attributable to the combined sewer inflow. In those cases where control or treatment of combined sewer bypasses or overflows is required, the cost-effectiveness analysis should be based on control or treatment of the total flow in the system. In all instances, the excessive infiltration should be eliminated from the entire sewer system including the combined sewer portions.

Infiltration/inflow correction cost estimates should include the costs of an evaluation survey, sewer system rehabilitation, and transportation and treatment of the infiltration/inflow not eliminated by rehabilitation.

3.0 SEWER SYSTEM EVALUATION SURVEY

The sewer system evaluation survey is a systematic examination of the sewer system to determine the specific location, flow rate and rehabilitation

costs of the infiltration/inflow problem. The following approach is designed to avoid overstudy of the infiltration/inflow problem, including unnecessary sewer cleaning and internal inspection. Each phase of the evaluation survey is supported by the preceding phase.

The evaluation survey is normally divided into five consecutive phases: (1) physical survey, (2) rainfall simulation, (3) preparatory cleaning, (4) internal inspection, and (5) survey report. However, in certain situations, it will be possible to acquire the desired information and results more economically by combining or eliminating certain phases of the survey. The physical survey and rainfall simulation phases may provide sufficient data to determine the existence or non-existence of excessive infiltration/inflow. In such cases, the cleaning and internal inspection phases could be eliminated.

3.1 Physical Survey

The first phase of the sewer system evaluation survey should be a physical survey to determine the flow characteristics, ground water levels and physical conditions of the sewer system.

In the first step of the physical survey, flow characteristics, and, if infiltration is a problem, ground water levels at key manholes in the sewer system are determined. Evaluation of this data would enable identification of segments of the sewer system requiring further study. In certain instances, the study area for the sewer system can be determined from data acquired during the infiltration/inflow analysis.

The second step of the physical survey should be an examination of each manhole in the study area to determine the actual physical condition of the sewer system. This examination involves a physical lamping of each pipeline

connected to the manholes. This data should aid in the identification of infiltration/inflow sources and provide a factual base for any sewer cleaning.

3.2 Rainfall Simulation

The second phase of the evaluation survey should be rainfall simulations to identify sections of sewer lines which have infiltration/inflow conditions during periods of rainfall.

Dyed water flooding of storm sewer sections which parallel or cross sanitary sewer sections (including service connections) and have crown elevations greater than the invert elevations of the sanitary sewers is a method of conducting the rainfall simulation phase. Stream sections, ditch sections, and ponding areas located near or above sanitary sewer sections should be dyed water flooded to identify other sources of infiltration/inflow. The downstream sanitary manhole is monitored for evidence of dyed water. The observed presence, concentration, and travel time of the dyed water into the sanitary sewer can be correlated with the soil types to obtain an estimate of the sources and quantities of infiltration/inflow. If the sewer system does not contain water traps or sagged lines, smoke testing could be used to identify connections from catch basins, roof leaders, yard drains and area drains.

3.3 Preparatory Cleaning

The third phase of the evaluation survey should be the preparatory cleaning of selected sewer lines to provide for unobstructed internal inspection. The selection of sewer sections for internal inspection is determined by analysis of the data from the physical survey and rainfall simulation phases. Selected sewer sections should have obvious potential for excessive infiltration/inflow and warrant the necessary preparatory cleaning and internal inspection.

3.4 Internal Inspection

The fourth phase of the evaluation survey should be the internal inspection of selected sections of the sewer system. This phase should determine the specific location, condition, estimated flow rate, and cost of rehabilitation for each source of infiltration/inflow defined in the selected sections. A descriptive record of all structural defects, service connections, abnormal conditions and other pertinent observations should be obtained during the inspection. The source of service connection flows should be identified. An estimated flow rate is determined for each infiltration/inflow source.

Internal inspection for infiltration conditions is normally conducted during periods of maximum ground water levels. One exception to this procedure is when the sewer is located above the maximum ground water level. All storm sewers sections, stream sections, ditch sections, and ponding areas related to the infiltration/inflow conditions are normally flooded during the internal inspection.

The method used for internal inspection of sewer sections should be the best and most cost-effective method of obtaining the necessary information. Television is an acceptable method of obtaining the necessary information. Inspection of large sewers may be accomplished by actual observation. Photographs or video tapes of infiltration/inflow sources can be used to support the field data.

3.5 Survey Report

The final phase of the evaluation survey should be a survey report of the data gathered during the survey, plus a justification for each sewer section cleaned and internally inspected, (costs not justified will be unallowable grant costs) and a proposed rehabilitation program to eliminate all defined excessive infiltration/inflow.

Each source of infiltration/inflow found during the survey should be identified in the report by specific location, condition, flow rate, method and cost of rehabilitation, and cost of transportation and treatment. An infiltration/inflow source should be proposed for rehabilitation if the rehabilitation cost does not exceed the cost of transportation and treatment.

Rehabilitation costs for an infiltration/inflow source should be based on the most cost-effective method of rehabilitation. (Several sources in a sewer segment between two consecutive manholes could be combined to achieve this objective.) Methods of rehabilitation can include: (1) replacement of sewer sections or service connections; (2) insertion of sewer liners; (3) internal or external pressure grouting with chemical sealants; (4) removal or plugging of inflow connections; (5) manhole grouting; and (6) replacement, elevating and/or sealing of manhole covers. Cement mortar grouting is not an effective method of rehabilitation except for manholes. Chemical sealants used for pressure grouting should have the demonstrated capability to eliminate infiltration under similar soil and sewer conditions. When pressure grouting is the selected method of rehabilitation, the estimated cost for the chemical sealant must be included in the rehabilitation costs.

When the sewer system contains a portion of combined sewers, the major sources of inflow in the sanitary sewer portions tributary to the combined sewer portions, such as cross connections from storm sewers, yard and area drains, roof leaders, manhole covers and catch basins should be proposed for rehabilitation. If control or treatment is or will be required for bypasses or overflows in the NPDES permit, the remaining inflow sources in the sewer system should be proposed for rehabilitation if the cost of rehabilitation does not exceed the cost of transportation and treatment.

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EXCERPTS

Title 40—Protection of Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

SUBCHAPTER B—GRANTS

PART 35—STATE AND LOCAL ASSISTANCE

Final Construction Grant Regulations

§ 35.905–5 Excessive infiltration/inflow.

The quantities of infiltration/inflow which can be economically eliminated from a sewer system by rehabilitation, as determined by a cost-effectiveness analysis that compares the costs for correcting the infiltration/inflow conditions with the total costs for transportation and treatment of the infiltration/inflow, subject to the provisions in § 35.927.

§ 35.905–9 Infiltration.

The water entering a sewer system, including sewer service connections, from the ground, through such means as, but not limited to, defective pipes, pipe joints, connections, or manhole walls. Infiltration does not include, and is distinguished from, inflow.

§ 35.905–10 Infiltration/inflow.

The total quantity of water from both infiltration and inflow without distinguishing the source.

§ 35.905–11 Inflow.

The water discharged into a sewer system, including service connections from such sources as, but not limited to, roof leaders, cellar, yard, and area drains, foundation drains, cooling water discharges, drains from springs and swampy areas, manhole covers, cross connections from storm sewers and combined sewers, catch basins, storm waters, surface run-off, street wash waters, or drainage. Inflow does not include, and is distinguished from, infiltration.

§ 35.905–18 Sanitary sewer.

A sewer intended to carry only sanitary or sanitary and industrial waste waters from residences, commercial buildings, industrial plants, and institutions.

§ 35.905–22 Storm sewer.

A sewer intended to carry only storm waters, surface run-off, street wash waters, and drainage.

§ 35.905–2 Combined sewer.

A sewer intended to serve as a sanitary sewer and a storm sewer, or as an industrial sewer and a storm sewer.

§ 35.927 Sewer system evaluation and rehabilitation.

(a) All applicants for grant assistance awarded after July 1, 1973, must demonstrate to the satisfaction of the Regional Administrator that each sewer system discharging into the treatment works project for which grant application is made is not or will not be subject to excessive infiltration/inflow. The determination whether excessive infiltration/inflow exists, may take into account, in addition to flow and related data, other significant factors such as cost-effectiveness (including the cost of substantial treatment works construction delay, see Appendix A to this subpart), public health emergencies, the effects of plant bypassing or overloading, or relevant economic or environmental factors.

(b) The determination whether or not excessive infiltration/inflow exists will generally be accomplished through a sewer system evaluation consisting of (1) certification by the State agency, as appropriate; and, when necessary (2) an infiltration/inflow analysis; and, if appropriate, (3) a sewer system evaluation survey followed by rehabilitation of the sewer system to eliminate an excessive infiltration/inflow defined in the sewer system evaluation. Information submitted to the Regional Administrator for such determination should be the minimum necessary to enable a judgment to be made.

(c) Guidelines on sewer system evaluation published by the Administrator provide further advisory information.

§ 35.927–1 Infiltration/Inflow analysis.

(a) The infiltration/inflow analysis shall demonstrate the non-existence or possible existence of excessive infiltration/inflow in each sewer system tributary to the treatment works. The analysis should identify the presence, flow rate, and type of infiltration/inflow conditions, which exist in the sewer systems. Information to be obtained and evaluated in the analysis should include, to the extent appropriate, the following:

(1) Estimated flow data at the treatment facility, all significant overflows and bypasses, and, if necessary, flows at key points within the sewer system.

(2) Relationship of existing population and industrial contribution to flows in the sewer system.

(3) Geographical and geological conditions which may affect the present and future flow rates or correction costs for the infiltration/inflow.

(4) A discussion of age, length, type, materials of construction and known physical condition of the sewer system.

(b) For determination of the possible existence of excessive infiltration/inflow, the analysis shall include an estimate of the cost of eliminating the infiltration/inflow conditions. These costs shall be compared with estimated total costs for transportation and treatment of the infiltration/inflow. Cost-Effectiveness Analysis Guidelines (Appendix A to this subpart), which contain advisory information, should be consulted with respect to this determination.

(c) If the infiltration/inflow analysis demonstrates the existence or possible existence of excessive infiltration/inflow a detailed plan for a sewer system evaluation survey shall be included in the analysis. The plan shall outline the tasks to be performed in the survey and their estimated costs.

§ 35.927–2 Sewer system evaluation survey.

(a) The sewer system evaluation survey shall consist of a systematic examination of the sewer systems to determine the specific location, estimated flow rate, method of rehabilitation and cost of rehabilitation versus cost of transportation and treatment for each defined source of infiltration/inflow.

(b) The results of the sewer system evaluation survey shall be summarized in a report. In addition, the report shall include:

(1) A justification for each sewer section cleaned and internally inspected.

(2) A proposed rehabilitation program for the sewer systems to eliminate all defined excessive infiltration/inflow.

§ 35.927–3 Rehabilitation.

(a) The scope of each treatment works project defined within the Facilities Plan as being required for implementation of the Plan, and for which Federal assistance will be requested, shall define (1) any necessary new treatment works construction, and (2) any rehabilitation work determined by the sewer system evaluation to be necessary for the elimination of excessive infiltration/inflow. However, rehabilitation which should be a part of the applicant's normal operation and maintenance responsibilities shall not be included within the scope of a Step 3 treatment works project.

(b) Grant assistance for a Step 3 project segment consisting of rehabilitation work may be awarded concurrently with Step 2 work for the design of the new treatment works construction.

§ 35.927–4 Sewer use ordinance.

Each applicant for grant assistance for a Step 2, Step 3, or combination Steps 2 and 3 project shall demonstrate to the satisfaction of the Regional Administrator that a sewer use ordinance or other legally binding requirement will be enacted and enforced in each jurisdiction served by the treatment works project before the completion of construction. The ordinance shall prohibit any new connections from inflow sources into the sanitary sewer portions of the sewer system and shall ensure that new sewers and connections to the sewer system are properly designed and constructed.

§ 35.927–5 Project procedures.

(a) *State certification.* The State agency may (but need not) certify that excessive infiltration/inflow does or does not exist. The Regional Administrator will determine that excessive infiltration/inflow does not exist on the basis of State certification, if he finds that the State had adequately established the basis for its certification through submission of only the minimum information necessary to enable a judgment to be made. Such information could include a preliminary review by the applicant or State, for example, of such parameters as per capita design flow, ratio of flow to design flow, flow records or flow estimates, bypasses or overflows, or summary analysis of hydrological, geographical, and geological conditions, but this review would not usually be equivalent to a complete infiltration/inflow analysis. State certification must be on a project-by-project basis. If the Regional Administrator determines on the basis of State certification that the treatment works is or may be subject to excessive infiltration/inflow, no Step 2 or Step 3 grant assistance may be awarded except as provided in paragraph (c) of this section.

(b) *Pre-award sewer system evaluation.* Generally, except as otherwise provided in paragraph (c) of this section, an adequate sewer system evaluation, consisting of a sewer system analysis and, if

required, an evaluation survey, is an essential element of Step 1 facilities planning and is a prerequisite to the award of Step 2 or 3 grant assistance. If the Regional Administrator determines through State Certification or an infiltration/inflow analysis that excessive infiltration/inflow does not exist, Step 2 or 3 grant assistance may be awarded. If on the basis of State certification or the infiltration/inflow analysis, the Regional Administrator determines that possible excessive infiltration/inflow exists, an adequate sewer system evaluation survey and, if required, a rehabilitation program must be furnished, except as set forth in paragraph (c) of this section before grant assistance for Step 2 or 3 can be awarded. A Step 1 grant may be awarded for the completion of this segment of Step 1 work, and, upon completion of Step 1, grant assistance for a Step 2 or 3 project (for which priority has been determined pursuant to § 35.915) may be awarded.

(c) *Exception.* In the event it is determined by the Regional Administrator that the treatment works would be regarded (in the absence of an acceptable program of correction) as being subject to excessive or possible excessive infiltration/inflow, grant assistance may be awarded provided that the applicant establishes to the satisfaction of the Regional Administrator that the treatment works project for which grant application is made will not be significantly changed by any subsequent rehabilitation program or will be a component part of any rehabilitated system: *Provided*, That the applicant agrees to complete the sewer system evaluation and any resulting rehabilitation on an implementation schedule the State accepts (subject to approval by the Regional Administrator), which schedule shall be inserted as a special condition in the grant agreement. Compliance with this schedule shall be accomplished pursuant to § 35.935–16 and § 30.304 of this chapter.

(d) Municipalities may submit the infiltration/inflow analysis and when appropriate the sewer system evaluation survey, through the State agency, to the Regional Administrator for his review at any time prior to application for a treatment works grant. Based on such a review, the Regional Administrator shall provide the municipality with a written response indicating either his concurrence or nonconcurrence. The Regional Administrator must concur with the sewer system evaluation survey plan before the work is performed for the survey to be an allowable cost.

§ 35.920–3 Contents of application.

(a) *Step 1.* Facilities plan and related elements required to apply for Step 2 grant assistance. An application for a grant for Step 1 shall include:

(1) A plan of study presenting (i) the proposed planning area; (ii) an identification of the entity or entities that will be conducting the planning; (iii) the nature and scope of the proposed Step 1 project, including a schedule for the completion of specific tasks; and (iv) an itemized description of the estimated costs for the project;

(2) Proposed subagreements, or an explanation of the intended method of awarding subagreements for performance of any substantial portion of the project work;

(3) Required comments or approvals of relevant State, local, and Federal agencies (including "clearinghouse" requirements of OMB Circular A–95, promulgated at 38 FR 32874 on November 28, 1973).

(b) *Step 2.* Preparation of construction drawings and specifications. Prior to the award of a grant or grant amendment for a Step 2 project, the following must have been furnished:

(1) A facilities plan (including an environmental assessment in accordance with Part 6 of this chapter) in accordance with §§ 35.917 through 35.917–9.

(2) Satisfactory evidence of compliance with the user charge provisions of §§ 35.925–11 and 35.935–13;

(3) Satisfactory evidence of compliance with the industrial cost recovery provisions of §§ 35.925–12, 35.928, and 35.935–13, if applicable;

(4) A statement regarding availability of the proposed site, if relevant;

(5) Satisfactory evidence of a proposed or existing program for compliance with the Relocation and Land Acquisition Policies Act of 1970 in accordance with § 30.403(d) and Part 4 of this chapter, if applicable;

(6) Satisfactory evidence of compliance with other applicable Federal statutory and regulatory requirements (see Part 30, Subpart C of this chapter);

(7) Proposed subagreements or an explanation of the intended method of awarding subagreements for performance of any substantial portion of the project work.

(8) Required comments or approvals of relevant State, local, and Federal agencies (including "clearinghouse" requirements of OMB Circular A–95) if a grant application has not been previously submitted.

(c) *Step 3.* Building and erection of a treatment works. Prior to the award of a grant or grant amendment for a Step 3 project, each of the items specified in paragraph (b) of this section, and in addition (1) two sets of construction drawings and specifications, suitable for bidding purposes, and (2) a schedule for or evidence of compliance with §§ 35.925–10 and 35.935–12 concerning an operation and maintenance program, must have been furnished.

(d) *Step 2/3.* Design/Construct Project. Prior to the award of a grant or grant amendment for a design/construct project the items in paragraphs (b) and (c) of this section must have been furnished, except that, in lieu of construction drawings and specifications, the proposed performance specifications and other relevant design/construct criteria for the project must have been submitted.

§ 35.917–1 Content of Facilities Plan.

Facilities planning which is initiated after April 30, 1974, must encompass the following to the extent deemed appropriate by the Regional Administrator:

(a) A description of the treatment works for which construction drawings and specifications are to be prepared. This description shall include preliminary engineering data, cost estimates for design and construction of the treatment works, and a schedule for completion of design and construction. The preliminary engineering data may include, to the extent appropriate, such information as a schematic flow diagram, unit processes, design data regarding detention times, flow rates, sizing of units, etc.

(b) A description of the selected complete waste treatment system(s) of which the proposed treatment works is a part. The description shall cover all elements of the system, from the service area and collection sewers, through treatment, to the ultimate discharge of treated wastewaters and disposal of sludge.

(c) Infiltration/inflow documentation in accordance with § 35.927.

(d) A cost-effectiveness analysis of alternatives for the treatment works and for the waste treatment system(s) of which the treatment works is a part. The selection of the system(s) and the choice of the treatment works on which construction drawings and specifications are to be based shall reflect the cost-effectiveness analysis. This analysis shall include:

(1) The relationship of the size and capacity of alternative works to the needs to be served, including reserve capacity;

(2) An evaluation of alternative flow and waste reduction measures;

(3) An evaluation of improved effluent quality attainable by upgrading the operation and maintenance and efficiency of existing facilities as an alternative or supplement to construction of new facilities;

(4) An evaluation of the capability of each alternative to meet applicable effluent limitations. The treatment works design must be based upon not less than secondary treatment as defined by the Administrator pursuant to sections 301 (a)(1)(B) and 304(d)(1) of the Act;

(5) An identification of, and provision for, applying the best practicable waste treatment technology (BPWTT) as defined by the Administrator, based upon an evaluation of technologies included under each of the following waste treatment management techniques:

(i) Biological or physical-chemical treatment and discharge to receiving waters;

(ii) Treatment and reuse; and

(iii) Land application techniques.

All Step 2, Step 3 or combination Step 2–3 projects for publicly-owned treatment works construction from funds authorized for any fiscal year beginning after June 30, 1974, shall be based upon application of BWPTT, as a minimum. Where application of BPWTT would not meet water quality standards, the facilities plan shall provide for attaining such standards. Such provision shall consider the alternative of treating combined sewer overflows.

(6) An evaluation of the alternative means by which ultimate disposal can be effected for treated wastewater and for sludge materials resulting from the treatment process, and a determination of the means chosen.

(7) An adequate assessment of the expected environmental impact of alternatives including sites pursuant to Part 6 of this Chapter. This assessment shall be revised as necessary to include information developed during subsequent project steps.

(e) An identification of effluent discharge limitations, or where a permit has been issued, a copy of the permit for the proposed treatment works as required by the National Pollution Discharge Elimination System.

(f) Required comments or approvals of relevant State, interstate, regional, and local agencies.

Federal Guidelines

Design, Operation and Maintenance

of Waste Water Treatment Facilities

September 1970

U.S. DEPARTMENT OF THE INTERIOR • FEDERAL WATER QUALITY ADMINISTRATION

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FOREWORD

Effective design and operation of municipal waste water treatment facilities is an essential element in the preservation and enhancement of our Nation's waters. The tremendous investment of Federal, State, and local funds in these facilities must be protected. We must incorporate past experience and new technology in this generation of facilities to ensure that optimum benefits are derived from expenditures in water pollution control. The development of these Guidelines represents a significant step toward the achievement of these goals.

Many have contributed to the development of these Guidelines. I particularly wish to thank the Ad Hoc Advisory Group, composed of representatives of the American Society of Civil Engineers, the Association of Metropolitan Sewerage Agencies, the Association of State and Interstate Water Pollution Control Administrators, the Great Lakes-Upper Mississippi Board of Sanitary Engineers, the U. S. Council of Consulting Engineers, the Water and Wastewater Equipment Manufacturers' Association, and the Water Pollution Control Federation, for their advice and counsel in reviewing the Guidelines and in developing the general procedures.

David D. Dominick

David D. Dominick, Commissioner
Federal Water Quality Administration

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INTRODUCTION

Over the past year the Federal Water Quality Administration has carefully analyzed and evaluated its grant program for the construction of waste treatment facilities. Past experience indicated that some of the projects that have received assistance have, for a variety of reasons, not always been as successful as anticipated. Improved design practices and technological advances are not being adequately incorporated into new plants. Operators are often poorly trained and paid. Facilities are frequently badly maintained and achieve far less than their designed efficiency levels.

FWQA has an obligation to ensure that Federal monies are wisely spent. This Administration must insist on proper design and operation procedures as it is clear that without them adequate levels of treatment will not be obtained.

On February 10, 1970, President Nixon announced a 37 point program to improve the Federal government's environmental protection programs. In this message he directed the Secretary of the Interior to require that Federally-assisted treatment facilities meet prescribed design, operation and maintenance standards. Only July 2, 1970, the Department of the Interior issued new regulations for the

construction grants program to implement the President's directive. Section 601.35 of Title 18 of the Code of Federal Regulations concerns the area of operation and maintenance of facilities; Section 601.36 concerns the design of facilities.

Section 601.36 states that "no grant shall be made for any project unless the Commissioner determines that the proposed treatment works are designed so as to achieve economy, efficiency, and effectiveness in the prevention or abatement of pollution or enhancement of the quality of the water into which such treatment works will discharge and meet such requirements as the Commissioner may publish from time to time concerning treatment works design so as to achieve efficiency, economy and effectiveness in waste treatment."

There are existing manuals, such as the various State and interstate standards and the ASCE-WPCF manuals, which can be used as references in the design of water pollution control facilities. Although these are generally adequate, it is important to emphasize that FWQA is not necessarily in full agreement with all criteria and concepts contained therein. Certain design considerations are not adequately emphasized, and adequate guidance is not given in those areas where there have been recent technological advances.

To supplement the existing standards, FWQA has developed Guidelines for Design. These Guidelines are not intended to cover all aspects of engineering design. Rather they outline, generally in broad terms, specific FWQA interests and policies that are not adequately reflected in the presently existing manuals.

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In addition to these Guidelines, FWQA will be issuing Technical Bulletins. Each Bulletin will cover a certain topic in detail. These Bulletins are intended to amplify specific areas contained in the Guidelines, define and analyze certain deficiencies in design, and evaluate new advances in technology and provide guidance for incorporating these in new facilities. The Bulletins will combine the results of our field experience and our research and development program, along with the efforts of outside experts and consultants.

Together with the applicable portions of presently existing manuals and the attached Guidelines, the Technical Bulletins will cumulatively constitute the FWQA design requirements referred to in Section 601.36.

Section 601.35 states that "no grant shall be made for any project unless the State water pollution control agency assures the Commissioner that the State will inspect the treatment works not less frequently than annually for the 3 years after such treatment works are constructed and periodically thereafter to determine whether such treatment works are operated and maintained in an efficient, economic, and effective manner and unless the applicant assures the Commissioner that the treatment works will be maintained and operated in accordance with such requirements as the Commissioner may publish from time to time concerning methods, techniques, and practices for economic, efficient, and effective operation and maintenance of treatment works."

The number and frequency of the inspections called for by the regulation are the absolute minimum necessary to ensure proper maintenance and operation of a facility. FWQA will be working closely with the States to ensure that inspections are adequate in scope as well as in frequency.

FWQA has developed Guidelines for Operation and Maintenance which provide the general basic requirements in the areas of inspections, operation and maintenance for Federally-assisted projects. FWQA will be issuing Technical Bulletins which, as in the case of the Technical Bulletins for Design, will provide amplifications in certain specific areas.

The Guidelines and future FWQA Technical Bulletins for design and operation and maintenance should be maintained in appropriate files by State water pollution control agencies, consulting engineers, and all other interested parties. In the future, projects for which Federal grant assistance is requested are expected to comply with these Guidelines and Technical Bulletins. While in exceptional cases deviations may be accepted, any deviations must be justified on a case-by-case basis and approved by FWQA prior to their initiation.

GUIDELINES FOR DESIGN

These Guidelines are intended to supplement existing references such as the Recommended Standards for Sewage Works: Great Lakes-Upper Mississippi River Board of State Sanitary Engineers (the Ten State Standards), the ASCE Manuals Number 36 and 37 (WPCF Manuals 8 and 9), and applicable State standards and guidelines.

All water pollution control projects which are submitted for FWQA construction grants will be required to conform to these Guidelines and future Technical Bulletins, as well as to applicable State requirements. It is recognized that certain modifications or exceptions may be necessary when justified in unusual situations. In such cases under appropriate conditions, deviations from existing standards or Guidelines may be allowed. However, written approval of any deviations from the Guidelines, Technical Bulletins, or applicable State standards must be obtained from the FWQA Regional Office and the State agency as early as possible prior to the completion of detailed plans and specifications.

These Guidelines are presented in two parts. Part A deals with general concepts which must be considered very early in the planning and preparation of an engineering report for waste

treatment facilities. Part B makes reference to more specific subjects which must be considered in the preparation of final construction plans and specifications.

A. PRELIMINARY PROJECT PLANNING AND ENGINEERING REPORT

Certain basic principles should be considered early in the planning process for water pollution control facilities. Conformance with these principles is essential to ensure the eventual development of properly designed facilities which will meet all State and FWQA requirements.

The engineering report accompanying the application for Federal aid should clearly indicate compliance with the following principles. Any questions regarding the applicability of these items to the proposed project or requests for deviations should be resolved by consultation with the State water pollution control agency and the FWQA Regional Office before completion of the engineering report and submission of an application for Federal aid.

I. Environmental Compatibility

All Federally-assisted projects must conform to the intent of the National Environmental Policy Act of 1969 and Executive Order 11514, Protection and Enhancement of Environmental Quality.

a. Planning for the proposed project must take into account all aspects of environmental quality protection. Efforts shall be taken to preserve natural beauty, wildlife, recreational areas, historic sites, and private property.

b. The project must be designed and constructed so as to have the least possible impact on the environment.

c. Attention must be given to the general aesthetic appearance of the facility and to the prevention of any possible odor problems.

d. Planning shall be coordinated with local planning and citizen groups to resolve potential site problems.

e. Plant locations on flood plains should be avoided whenever practicable. When such locations are unavoidable, adequate protection from flooding must be provided.

II. Regionalization

a. Due consideration must be given to the advantages of regional and basin sewerage facility planning. Whenever feasible, municipalities should join together in cooperative regional treatment systems, composed of one or more treatment plants depending on water quality requirements and economic, operational, and other appropriate considerations.

b. Where regional waste water management plans have been developed and approved by an appropriate agency, the project should conform to such plans.

c. If a regional plan has not been developed, an analysis shall be made to determine the feasibility of having the municipality join in a regional system in lieu of constructing their own independent or additional treatment facilities.

III. Project Feasibility

a. After consideration of all alternatives, the design of the proposed project shall be made on the basis of economic feasibility, water quality objectives, environmental compatibility, and other applicable considerations. That certain portions of the system are eligible for Federal assistance and others are not should not determine the final nature of the project.

b. In order to avoid tying up Federal grant funds for unreasonably long periods of time, the project for which Federal aid is requested, including other facilities required to make it operable, should be of such a scope that it can be completed and in operation within three years of the date of the Federal grant offer. For unusually large and complex projects, a longer period of time may be allowed. Additional phases of the project may be submitted for consideration for Federal aid in future years when the anticipated construction period will meet these requirements.

IV. Complete and Operable Treatment Works

a. Any proposed project must be designed and reviewed in light of the entire waste treatment system. No project will be approved unless it is shown that the capacity and treatment provided by the waste treatment system serving the proposed project will meet all FWQA, State, and interstate requirements, including approved water quality standards, and protect the designated uses of the receiving waters.

b. If construction of other facilities is required to make the proposed project operable and acceptable, then a commitment must be made that the required construction will be concurrent with that of the proposed facility.

V. Receiving Waters and Degree of Treatment

a. Proposed treatment must be in accordance with State requirements, as well as with Federal and State water quality standards, Federal Enforcement Conference requirements, comprehensive river basin reports and plans, FWQA Regulations, and the designated uses of the receiving waters.

b. Characteristics of receiving waters must be considered to ensure that water quality standards will be met by the proposed treatment. Applicable data shall be included in the engineering report.

c. The engineering report shall specifically indicate the anticipated removal efficiency of BOD, suspended solids, and other appropriate parameters, and the total pounds of BOD, suspended solids, and other significant constituents to be discharged per day.

d. There should be no discharge of effluents to swamps, stagnant waters, small lakes, or intermittent streams if feasible alternates are available.

e. Outfalls shall be extended and designed as necessary to insure adequate mixing and dispersal of the effluent.

f. Disposal of a treated effluent to other than surface waters requires prior approval from the State and FWQA.

VI. Ultimate Disposal of Sludge and Solids

a. Provision for ultimate disposal of sludge must be clearly indicated and must be in accordance with interstate, State, and FWQA requirements. It is not sufficient merely to indicate such processes as drying beds, vacuum filters, or incinerators, without also describing the method to be used for final disposal of the sludge cake or sludge residues.

b. The method of final disposal must not result in any significant degradation of surface or ground water, air, or land resources. If there is a choice, the method

chosen must be that having the least impact on the environment.

c. No sludge residues, grit, ash, or other solids may be discharged into the receiving waters or plant effluent. The disposal of any sludge to ocean waters is not recommended.

d. Disposal of raw sludge to fresh or marine waters or by spreading and tilling on land will not be approved.

e. Sludge elutriation is not considered desirable and will not be approved without adequate safeguards.

VII. Treatment Plant Reliability

a. All water pollution control facilities should be planned and designed so as to provide for maximum reliability at all times.

b. The facility should be capable of operating satisfactorily during power failures, flooding, peak loads, equipment failure, and maintenance shutdowns. A minimum of primary treatment should be provided at all times. Disinfection and higher degrees of treatment may be required where necessitated by the uses of the receiving waters.

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c. Such reliability can be obtained through the use of various design techniques which will result in a facility which is virtually "fail-safe." (See Part B, Section II, page 20.)

VIII. Excessive Infiltration

a. Excessive infiltration is an indication of deficiencies in the sewerage system. This situation is often categorized by high per capita flows to the treatment facility.

b. Construction of treatment facilities with extra capacity to handle these excessive flows may not be the best solution to the problem, since this may result in unnecessary capital and operating costs and in inefficient treatment.

c. An analysis of the sewerage system must be made to determine the causes for such excessive infiltration where it occurs and, where feasible, an acceptable remedial plan of action should be prepared to correct the situation.

d. Solutions, such as separation of illegal storm water connections, repair or replacement of defective sewers, and enforcement of sewer ordinances, must be discussed in the report together with an adequate cost analysis

before any recommendation is made to construct an oversized treatment facility or to allow by-passing of excess flows.

IX. Elimination of By-passing

a. In systems handling only dry-weather flows, the incorporation in the design of mechanisms for by-passing treatment plants or pumping stations must be avoided if at all possible. Any exceptions must have prior approval of the State and FWQA.

b. Where incorporation of by-passing facilities is necessary, consideration must be given to separation of combined systems, detention facilities, or other alternative means of control or treatment, and disinfection of overflows.

c. Adequate safeguards to prevent misuse of by-pass facilities must be provided.

d. Extended by-passing during construction will not be permitted. (See Part B, Section IV, page 21.)

X. Industrial Wastes

a. The engineering report should clearly define the characteristics of the wastes from major or significant industries and their effects upon the waste treatment process.

b. Where necessary, pilot plant studies should be made to determine the final design criteria for the treatment facility.

c. It is necessary that adequate industrial waste ordinances or other controls be adopted by the municipalities in order to protect and maintain the treatment facilities. These shall provide for the following:

1. Pretreatment of any wastes which would otherwise be detrimental to the collection system, treatment facilities, or processes.

2. An equitable system of cost recovery in accordance with Federal Regulations, 18 CFR 601.34c.

XI. Staffing and Budget for a Facility

A thorough analysis must be made of the operation and maintenance requirements of the proposed facility, including required laboratory testing. Specific recommendations shall be given in the engineering report for staffing, including operator qualifications, and annual budget needs of the proposed treatment facility.

XII. Design Period

A careful review of the growth potential of the area to be served by a waste water facility should be made to adequately provide for the increased waste loadings that are expected to develop. Both domestic and industrial loadings should be discussed in the report. It is not considered feasible for FWQA to establish a standard minimum design period because the growth characteristics of a particular area may be such that a minimum design period would cause uneconomical design and inefficient operating conditions after the project is constructed The rationale for design will be as follows:

a. When rapid growth is anticipated, the design period should be long enough for orderly spacing of construction contracts and the design should permit sufficient flexibility to prevent inefficient operation of individual units. The design layout of a treatment facility should consider the ultimate development of the watershed being served and the characteristics of the receiving waters. Construction may be phased to meet treatment demands.

b. Where the anticipated growth of an area is estimated to be relatively slow, the design should be for a reasonable growth rate with sufficient flexibility of sizing of units to ensure efficiency of operation.

c. The plant site must be sufficiently large to permit expansion of the facility to provide for foreseeable future needs, such as increased capacity and higher degrees of treatment.

d. The plant must be designed to facilitate expansion and possible upgrading of the facility.

XIII. Combined Sewerage Systems

The problem of pollution from combined systems shall be considered in early project planning. Possible solutions, both short and long term, shall be outlined in the engineering report. Consideration shall be given to detention facilities and disinfection, separation of combined systems, treatment or control of overflows or other solutions.

B. PREPARATION OF PLANS AND SPECIFICATIONS

The items outlined under Part A, Preliminary Project Planning and Engineering Report, must also be considered when proceeding with final design details. The following guidelines more specifically indicate how these considerations and others are to be applied in the preparation of final contract plans and specifications.

1. Design Summary

A Design Summary, including but not limited to the following items, will be required with submission of final plans and specifications unless acceptable data are already included in the engineering report.

a. A flow diagram indicating the project's major features and the nature of flow and recirculation through the various processes.

b. A hydraulic profile of flow through the treatment plant. This profile should clearly indicate that the peak flow will pass through the treatment facilities without back-up, flooding, or submerging weirs. The hydraulic gradient should permit discharge into the receiving waters during periods of flood stage.

c. Identification of receiving waters and location of point of effluent discharge. This should be shown on a map that would allow transferral to standard U.S.G.S. maps. In addition, detailed information should be provided on the water quality, water uses, and hydraulics of the receiving waters at and near the point of discharge.

d. The initial population, population equivalent, and flow to the facility.

e. Identification, including expected strength and toxicity, of major or significant industrial waste contributions.

f. The design year, design population, and flow.

g. Design efficiency, such as removal of BOD, suspended solids, and other appropriate parameters and the total pounds of BOD, suspended solids, and other significant constituents discharged per day.

h. Physical characteristics of treatment units, including size, surface loadings, and detention times.

i. Identification and justification of any deviations from applicable standards or FWQA Guidelines and Technical Bulletins.

j. Method of ultimate sludge disposal.

k. Identification and explanation of any unusual design features.

II. Reliability

The treatment facility should be capable of satisfactory operation during emergencies, maintenance shutdowns, and power failures. (See Part A, Section VII, page 13.) This type of reliability shall be achieved by consideration and appropriate inclusion of such design factors as:

a. Duplicate sources of electric power.

b. Standby power for essential plant elements.

c. Multiple units and equipment.

d. Holding tanks or basins to provide for emergency storage of overflow and adequate pump-back facilities.

e. Flexibility of piping and pumping facilities to permit rerouting of flows under emergency conditions.

f. Provision for emergency storage or disposal of sludge.

III. Discharges to Shellfish, Potable, or Recreational Waters

Discharges in close proximity to shellfishing beds, public water supply intakes, or contact recreation areas

should be avoided. Where such discharges are unavoidable, special precautions must be taken. In addition to the items listed above, the following are recommended and may be required:

a. Dual chlorination units.

b. Automatic facilities to regulate and record chlorine residuals.

c. Automatic alarm systems to give warning of high water, power failure, or equipment malfunction.

d. Sand filters or polishing ponds following secondary treatment.

IV. Elimination of By-passes and Overflows

a. Plant and up-stream by-passes should not be permitted. (See Part A, Section IX, page 14.)

b. Exceptions, even for combined systems, shall not be considered until every effort has been made to minimize the discharge of untreated wastewater to waters by utilizing detention facilities or other alternative means of control or treatment, disinfection of overflows, separation of combined systems, and correction of excessive infiltration.

V. Treatment During Construction

a. If at all possible, by-passing of raw sewage during the construction of additions to existing treatment facilities shall not be allowed.

b. During alterations to existing plants, the same degree of treatment provided by the existing plant should be continued. If this is not feasible, a minimum of primary treatment and disinfection should be provided at all times.

c. The consulting engineer must either establish a construction schedule which will minimize or prevent by-passing or require the contractor to submit such a schedule before construction commences. The requirement for continuous treatment must be clearly stated in the contract plans and specifications.

d. Where no other feasible alternative exists, by-passing may be permitted providing it is kept to an absolute minimum and receives prior approval from the State and FWQA.

e. Measures to be taken for control of erosion at the construction site must be included in the plans and specifications or otherwise provided for by the consulting engineer and/or contractor.

VI. Experimental Processes or Equipment

a. FWQA encourages the application of new approaches to treatment plant design and operation. Aid for the construction and operation of facilities demonstrating experimental processes or equipment is available under the FWQA Research, Development and Demonstration Program.

b. Section 8 P. L. 84-660 grant funds may be used for facilities incorporating new processes or equipment which have had limited prior use, providing the project is reasonable in scope and preliminary results are favorable.

c. In such cases, the contract specifications must include details on performance criteria that are acceptable to the State and FWQA. In some cases, adequate performance guarantees may be required.

d. Prior approval of the State and FWQA must be obtained before preparation of contract plans and specifications for such projects.

VII. Flexibility and Ease of Operation and Maintenance

a. The design of process piping, equipment arrangement, and unit structures in the facility must allow for efficiency and convenience in operation and maintenance and provide maximum flexibility of operation. Such

flexibility should permit the highest possible degree of treatment to be obtained under varying circumstances.

b. Process controls, such as the return and measurement of sludge in the activated sludge process, variable recirculation capacity for trickling filter plants, and the feeding of raw wastes directly into aeration tanks, should be provided.

c. All equipment shall be easily accessible so as to provide ease of maintenance.

d. Adequate facilities shall be provided for taking test samples at required locations.

e. Multiple units or dual compartments with unit drains should be provided for all processes, including disinfection facilities, so that draining, cleaning, and other maintenance can be provided without omitting any treatment process. For small plants retention basins may be substituted for these purposes.

f. All basins and tanks in locations subject to high ground water levels or flooding should be provided with back-flow relief valves.

g. The use of equalization tanks to decrease the impact of peak loads is recommended.

h. Color coding shall be provided to identify each type of process piping in the treatment plant.

i. An adequately designed and equipped laboratory shall be provided.

j. Equipment with high noise levels, such as compressors and centrifuges, shall be enclosed in separate rooms, which should be sufficiently soundproof to protect the operator and to satisfy neighborhood environmental requirements.

k. Instrumentation should be used to facilitate operation and recordkeeping. Flow measurement and recording equipment should be provided at the influent end of the plant.

l. All materials of construction shall be such as to withstand local climatic and other environmental conditions. This is particularly important in coastal areas.

VIII. Protection of Effluent Quality

a. All aspects of plant design, including the layout of tanks and piping, shall allow for routine maintenance of treatment units without deterioration of the plant effluent.

b. The flow from all unit drains must be directed back to the treatment plant and not discharged into the plant effluent.

c. Baffles or other means must be provided across the surface of primary tanks, secondary tanks, and chlorine contact tanks to prevent the discharge of floating materials.

d. All final settling tanks must be provided with skimming devices to collect and remove floating solids.

e. Extended aeration plants must be equipped with sludge holding tanks for wasting excess sludge so as to prevent sludge carryover into the effluent. Polishing lagoons or sand filters are recommended following this type of facility.

f. No piping may be installed which would allow for the direct discharge of sludge solids or ashes into the effluent or receiving waters.

g. Piping should be arranged so that no supernatant, including drainage from sludge beds, centrate, filtrate, overflows from thickening units and digesters, etc., is discharged into the effluent. Supernatant should either be returned to the treatment process or, preferably, be given separate treatment and disposal.

IX. Safety Features

As indicated before, these Guidelines are not intended to be all inclusive. The safety features enumerated below are those which deserve increased emphasis.

a. Chlorine facilities must be provided with proper ventilation and heating. The fan switch shall be located outside of the facility. The chlorine storage area should be separated from the feed area and from the remaining plant areas.

b. The wet wells and dry wells of pumping stations must be provided with positive means of ventilation.

c. The treatment plant shall be enclosed as necessary to protect the public and the facility.

d. Protective railing shall be provided around open tanks and other areas where it may contribute to safety.

e. Explosion-proof motors, controls, and electrical wiring and lighting shall be provided in all hazardous areas, such as the digester control building and enclosed wet wells.

f. The public water supply must be protected to eliminate the possibility of contamination by cross connections with sewage or sludge piping. This should be achieved

by a positive air break, although an adequate automatic flow-back prevention device may be acceptable under certain circumstances. Installation should be on the main water line where it first enters the treatment plant or pumping station and prior to any plant piping connections, including yard hydrants.

g. Flood lights shall be provided for nighttime inspection and maintenance.

h. Signs shall be provided designating hazardous areas and nonpotable water taps.

X. Interceptor Sewers

a. Particular attention shall be given to ensure that sewers will be as water tight as possible. Plans and specifications shall include the following.

1. Infiltration or exfiltration requirements with maximum allowable limits.

2. Bedding and backfill specifications including cross section details.

3. Jointing specifications to provide for minimum infiltration.

4. Requirements for post construction testing to determine compliance with specified limitations on infiltration.

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b. Adequate subsurface investigations should be made to identify underground conditions such as the presence of rock or unsuitable soils. The bid proposal should be based on an evaluation of such investigations.

XI. General Requirements

a. The contract specifications must include all FWQA administrative requirements. These include such items as project signs, labor standards, wage rates, civil rights, and competitive bidding. Required subjects and documents can be obtained from the applicable State agency or FWQA Regional Office.

b. Plans and specifications shall be prepared with all necessary details to permit the contractor to properly evaluate the cost of the project and to submit a competitive bid. Details shall be sufficiently clear and complete to avoid the issuance of unnecessary and costly change orders.

c. Those portions of the project that are eligible for Federal aid under P. L. 84-660 must be clearly identified and contained either in separate contracts or in separate bid schedules in the contract documents.

Federal Guidelines

Operation and Maintenance

of Wastewater Treatment Facilities

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Water and Hazardous Materials
Washington, D.C. 20460

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FOREWORD

This supplement updates and replaces pages 31 through 46 of the Federal Guidelines - Design, Operation and Maintenance of Waste Water Treatment Facilities, dated September 1970 and concerns only that portion of the Guidelines pertaining to the operation and maintenance of wastewater treatment facilities.

Several new subject areas have been added to comprehensively cover all elements commonly identified with the Operation and Maintenance of wastewater treatment facilities. The supplement has been expanded to include titles on Staffing and Training, Safety, Emergency Operating Plan, Maintenance Management, and Budget.

It is becoming increasingly evident that there is a vital need to include more comprehensive operation and maintenance considerations in the early stages of project development. This is vital to insure that the huge investments in construction of wastewater treatment facilities result in treatment capability that can produce a high quality effluent with a high degree of reliability.

There have been several organizations and many individuals that have contributed to the development of this supplement. The guidance provided by the Technical Advisory Group (TAG) to the Municipal Construction Division within the Office of Water & Hazardous Materials of the Environmental Protection Agency is particularily noted. TAG is composed of a representative from each of the following organizations:

American Society of Civil Engineers
Association of Metropolitan Sewerage Agencies
Association of State and Interstate Water Pollution Control Administrators
Great Lakes Upper Mississippi Board of Sanitary Engineers
U. S. Council of Consulting Engineers
Water and Wastewater Equipment Manufacturers Association
League of Women Voters
National League of Cities/U.S. Conference of Mayors
Associated General Contractors of America

Securities Industry Association
Conference of State Sanitary Engineers
American Public Works Association
Water Pollution Control Federation

The time and effort of the various individuals and groups that contributed to the development and review of these guidelines is sincerely appreciated.

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for Water and Hazardous Materials

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INTRODUCTION

The Federal Water Pollution Control Act Amendments of 1972 established specific goals for controlling wastewater discharges to meet certain water quality objectives. Achieving these goals will require the expenditure of many billions in capital funds for the construction of new facilities and will also require that all treatment facilities, both new and existing, be operated efficiently and effectively to maximize our pollution control effort. Proper operation of new and modified facilities and improved operation of existing facilities are essential if our water quality goals are to be met.

The surveys conducted in accordance with Section 210 of the Act, and included as Chapter VII of both the 1973 and 1974 editions of the Clean Water Report to Congress showed that about one-third of all treatment plants constructed with Federal grant assistance were not operating at the designed efficiency level when the plants were inspected. This illustrates the improvement in plant operation that will be needed if our water quality objectives are to be achieved.

These Operation and Maintenance Guidelines are structured to emphasize a comprehensive strategy to attain the high levels of operational efficiency that are necessary to realize appropriate water quality objectives throughout the Nation. This strategy must link closely municipal permits issued under the National Pollutant Discharge Elimination System (NPDES) with the various State and Federal programs responsible for assuring that effluent quality complies with specific municipal permit conditions. This approach is consistent with the stated objectives of the Act and EPA's Water Strategy document of March 15, 1974.

Title II of the Federal Water Pollution Control Act Amendments of 1972, PL 92-500, authorizes the award of construction grants for waste treatment works. As a condition of these awards, the Act in Sections 204(a) and (b) requires that the grantee make adequate provisions for proper and efficient operation and maintenance of grant funded facilities. The Construction Grant Regulations, Title 40, Chapter 1, Subchapter B, Part 35, Subpart E, dated February 4, 1974, contain several sections that provide additional information on these operation and maintenance requirements.

Section 35.917, Facilities Planning (Step 1) calls for a cost-effectiveness analysis of alternatives for a waste treatment facility for which a Federal grant is requested. One element of the analysis, section 35.917-1 (d)(3) calls for

> "An evaluation of improved effluent quality attainable by upgrading the operation and maintenance and efficiency of existing facilities as an alternative or supplement to construction of new facilities."

In Section 35.925-10, it is stated that a grant award shall not be made unless it is determined

> "If the award of grant assistance is for a project involving Step 3, that satisfactory provision has been made by the applicant for assuring proper and efficient operation and maintenance of the treatment works, in accordance with 35.935-12, and that the State will have an effective operation and maintenance monitoring program to assure that treatment works assisted under this subpart comply with applicable permit and grant conditions."

Section 35.935-12 states:

> "(a) The grantee must make adequate provisions satisfactory to the Regional Administrator for assuring economic, effective, and efficient operation and maintenance of such works in accordance with a plan of operation approved by the State water pollution control agency or, as appropriate, the interstate agency, after construction thereof.
>
> "(b) As a minimum, such plan shall include provision for: (1) An operation and maintenance manual for each facility, (2) an emergency operating and response program, (3) properly trained management, operation and maintenance personnel, (4)

adequate budget for operation and maintenance, (5) operational reports, and (6) provisions for laboratory testing adequate to determine influent and effluent characteristics and removal efficiencies.

"(c) The Regional Administrator shall not pay (1) more than 50 percent of the Federal share of any Step 3 project unless the grantee has furnished a draft of the operation and maintenance manual for review, or adequate evidence of timely development of such a draft, or (2) more that 90 percent of the Federal share unless the grantee has furnished a satisfactory final operation and maintenance manual."

The guidelines which follow are intended to assist in meeting these specific requirements of the Act and regulations for grant assisted facility construction and to provide information on the key elements that should be included in any plan of operation for a wastewater treatment facility. More detailed information on various aspects of operational plans may be found in the source documents referenced throughout the guidelines and listed at the back of this document.

GUIDELINES FOR OPERATION AND MAINTENANCE

These Guidelines are intended to assist in assuring that all aspects related to wastewater treatment plant operation and maintenance are appropriately considered by those responsible for complying with grant requirements, specific effluent permit criteria, and related water quality standards. The Guidelines are presented categorically to accommodate their use in either the development of new facilities or in upgrading the operation and maintenance procedures and programs of existing facilities. In the development of new facilities, it is essential that the various aspects of operation and maintenance that are outlined in these Guidelines be given appropriate consideration early in the design stage and that the design address these considerations properly in producing a facility with optimum, long-term performance capability.

1.0 FEDERAL AND STATE INSPECTIONS

1.1 To provide assurance of effective, efficient, continuous operation of waste treatment facilities and related appurtenances constructed under PL 92-500 grants within their jurisdiction, State agencies shall establish and maintain appropriate waste treatment facility inspection and technical assistance programs to identify operational deficiencies and to insure that appropriate remedial action is taken to correct deficiencies. This activity shall be clearly identified in the annual State Program Plan submitted to the EPA.

1.2 State agencies shall conduct at least an annual inspection, or provide for the inspection of, facilities constructed with Federal funds to determine whether these facilities are operated efficiently and effectively in accordance with plant design.

1.2.1 The inspector shall record the following information, using EPA Form 7500-5(4-72) (revised 1/74) or the latest revised version:

1.2.1.1 General information, including: date of inspection; plant identification and locations; name of inspector and title; type of plant and collection system; estimated total population served as well as industrial population equivalents served.

1.2.1.2 Plant loading performance data, including: average daily flow (MGD); peak flow rate for wet and dry weather (MGD); percent daily industrial flow to plant; date, time and volume of any wastes bypassing the plant; and summary of laboratory analyses data on raw waste and final effluent and other significant unit processes.

1.2.1.3 Information on operating personnel, including: staff complement and qualifications of personnel in each job category; total manhours per week; number of State certified or licensed personnel; staffing deficiencies; staff vacancies; staffing needs not budgeted; training needs and annual O&M Budgets. Also included will be an

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identification and narrative of any facility problem traceable to personnel or training deficiencies.

1.2.1.4 An identification and brief discussion of significant operational problems or difficulties.

1.2.1.5 An evaluation and report on the facility, including: adequacy of operation and plant performance with regard to State and Federal Permit or other requirements; general housekeeping and maintenance adequacy; testing and reporting adequacy; and recommendations for corrective actions.

1.2.1.6 Appropriate additional operation and maintenance data and information pertinent to the conditions found at the plant or elsewhere in the sewerage system at the time of inspection.

1.2.2 Copies of the inspection results shall be distributed by the State Water Pollution Control Agency to the subject waste treatment facilities; two copies to the EPA Regional Office, including a copy of the report transmittal letter to the inspected facility and/or the authority responsible for management.

1.2.3 EPA shall identify for each State by January 1 of each year those facilities the State must inspect in order to comply with Title II of PL 92-500. This list shall also identify on a tentative basis those facilities to which EPA Regional Office representatives may accompany State representatives to conduct inspections. Reasonable advance notice will be given by EPA to the State on plant inspections not previously indicated on the annual list.

1.3 In addition to thorough annual inspections as described above, routine interim inspections should be conducted by the State. The EPA Regional Office shall receive a copy of the reports on interim inspections.

1.4 Prompt and meaningful follow-up action shall be taken by the State to assure correction of inadequacies and deficiencies noted at inspections.

1.4.1 Where major deficiencies are involved, a copy of official State correspondence, notices or orders to a municipality and follow-up inspection reports shall be sent to the EPA Regional Office.

1.4.2 Wherever possible, in correcting deficiencies in operation, the State should coordinate with the design engineer responsible for the subject facility.

1.4.3 The consulting (design) engineer and the State should be involved in the start-up of new facilities.

2.0 STAFFING AND TRAINING

2.1 General Requirements

This section is included as an aid to the grantee in responding to the requirements of Section 204(a)(4) of the Act. The referenced section requires that, as a condition of a grant, the grantee will insure his facility will be adequately staffed and that it will be managed in accordance with an operational plan.

2.2 Specific Requirements by Phase

2.2.1 Facility planning phase

2.2.1.1 Analysis of Manpower Considerations

(a) Availability and skills of personnel from existing facilities which will be modified or phased out as a result of grant.

(b) New personnel skills required by proposed facility or operational alternatives.

(c) Potential staffing problems.

2.2.1.2 Recommendations to be included:

(a) Probable total staffing requirements for facility.

(b) Probable training needs and sources.

(c) General plan for staff development and training.

(d) Design considerations necessary to assure operability and maintainability.

2.2.2 Preparation of Plans and Specifications

The following staffing plan should be available in preliminary form in the design reports. Update should be made at about the 50% completion point of construction and should be finalized 60 days prior to

start-up for inclusion in the plant Operation and Maintenance manual.

2.2.2.1 Staff Development

(a) Planned staffing schedule.

(b) Salary schedules.

(c) Detailed manpower requirements for each unit process - include number, type and level.

(d) Staff structure and organization.

(e) Use of existing staff (where appropriate).

(f) Detailed analysis of new or special skills (where appropriate).

(g) Staff certification requirements.

2.2.2.2 Staff Training

(a) Training needs for initial and upgrade training, including: management, safety, operation and operational control, laboratory, maintenance and maintenance management, start-up and special equipment

(b) Training materials requirements.

(c) Training strategy and responsibilities.

(d) Training schedules for construction period, start-up and operational phases.

(e) Job and training aids required, including standard job operating procedures.

2.2.3 Construction Phase

2.2.3.1 Staffing

(a) The chief operator shall be retained by the grantee by the time construction of the waste

treatment plant is 50% complete so that he can become familiar with the plant layout, piping, underground utilities, checkout of all equipment, and to oversee staff development and training.

(b) Not later than 60 days prior to commencement of operation, the grantee shall inform the State or EPA of any problems encountered in acquiring or training personnel.

(c) Thirty days prior to commencement of operation, the grantee shall provide the State and EPA an itemized list of the positions filled, the qualifications of those employed, the assurance that the remaining vacant postions will be filled with qualified personnel as necessary for the efficient and effective operation and maintenance of the facility.

2.2.3.2 Training

(a) Within 30 days after the Chief Operator has been retained, or after the 50% completion date, whichever is later, the grantee shall submit a final training schedule for all pre-operational training activities.

(b) Thirty days prior to the commencement of operations, the grantee shall provide the State and EPA with a finalized plan (including schedules) for continuing training after start-up. This plan shall include replacement, refresher and upgrade training, as well as such special training as safety and emergency readiness. The plan also shall provide for such classroom and on-the-job training as is necessary to qualify personnel for the various positions for initial start-up of the waste treatment facility and for operation thereafter.

2.2.4 Operations phase

2.2.4.1 Staff

The grantee shall provide a staff of qualified personnel that is adequate to operate the facility efficiently and effectively. Qualified personnel shall be those meeting requirements established under State certification programs or other requirements established by the State and Federal governments.

2.2.4.2 Compensation

The grantee shall pay adequate salaries commensurate with duties, responsibilities and other conditions of employment.

3.0 RECORDS, REPORTS, AND LABORATORY CONTROL

3.1 A permanent record file for the treatment plant and collection system shall be maintained by the grantee at each of its waste treatment plants or at some appropriate location readily accessible to the operating personnel. The file should include:

3.1.1 The operation and maintenance manual for the wastewater treatment facility. (See Appendix, page 42)

3.1.2 Planning reports, design criteria and other related data.

3.1.3 All as-built plans, specifications, drawings, and manufacturers' specifications and recommendations for operation and maintenance of each unit.

3.1.4 Appropriate flow charts indicating the system process operation.

3.1.5 The NPDES Discharge Permit.

3.2 Complete and accurate plant operating records shall be maintained.

3.2.1 These records serve to guide plant operating and process control personnel and become the source of historical data on the precise performance of the facility. Plant operating reports can often be standardized, but it is of prime importance that the information and related forms be tailored to each operation in order to be effective. Significant data should also be graphed for visual display.

3.2.2 The grantee shall routinely file plant operating records with the appropriate State agency. Monthly reports of daily operating records are needed by the State regulatory agencies in carrying out their responsibilities to monitor and maintain maximum operating efficiencies.

3.3 Adequate monitoring, sampling and analysis of flows is fundamental to good operation and maintenance.

3.3.1 The influent should be monitored, sampled and analyzed so as to determine the rate of flow and characteristics of the wastewater to be treated. Effluent monitoring and reporting shall be stipulated in the NPDES permit. Optimum control of treatment processes may require up-line sampling and testing at strategic points throughout the collection system to pinpoint locations that contribute abnormal amounts of a given constituent.

3.3.2 Appropriate monitoring, sampling, and analysis shall be conducted through each process so as to indicate any adjustments necessary to provide a continuous high quality effluent.

3.3.3 The plant effluent shall be monitored to determine compliance with the discharge permit provisions contained in PL 92-500.

3.3.4 Wherever possible, the receiving water should be monitored to determine the effect of the plant effluent in relation to water quality standards.

4.0 PROCESS CONTROL

4.1 The wastewater treatment plant should be operated so as to fully and effectively utilize the flexibility in process control provided for in the plant design.

4.1.1 Plant flexibility should be used to get the maximum treatment out of the facility on a day-to-day basis. This includes making such process adjustments as may be indicated by the monitoring system.

4.1.2 The flexibility in routing flows that is provided in the design shall be used to allow preventive maintenance and repairs to be carried out without by-passing the entire treatment plant or discharging inadequatly treated wastewater.

4.1.3 A total plant bypass shall be used only as a last resort when necessary to protect the health and welfare of operating personnel or to prevent extensive damage to the plant facilities or processes or upstream property. All bypassed sewage shall be adequately disinfected. In those cases where the plant bypass must be used:

4.1.3.1 Where possible advanced approval must be obtained from the State. If this is not possible, the State must be notified of the bypass promptly by telephone.

4.1.3.2 A complete written report shall be filed with the State. This report shall include the date, time, quantity of the waste, characteristics of the waste, reason for bypassing, steps taken to prevent recurrence of the problem, and any other pertinent information considered necessary by the State.

4.1.3.3 Special notice may be required, e.g. shellfish, etc.

4.2 Plant operating personnel must be alert to any trends or changes in the characteristics of the influent, both on a long-range basis and on the short-term basis needed for day-to-day operations.

4.2.1 Operators should maintain continuous communication with plant management and appropriate regulatory agencies so that plant inadequacies are detected early, thus affording lead-time to diagnose and resolve problems before they impair quality control in the plant.

4.2.2 Provision should be made for warning plant operators promptly of any unusual flows or wastes that are discharged accidentally or otherwise to sewers served by the plant. Users shall be required through local ordinance to immediately notify waste treatment plants of any such discharges.

4.3 An effective equipment maintenance program is necessary to insure that all equipment is kept in a highly reliable operating condition. It is the responsibility of the plant management to provide sufficient funds for maintenance, repairs, spare parts, and standby equipment to keep the plant, pumping stations and related appurtenances operating satisfactorily.

4.3.1 The maintenance program should include:

4.3.1.1 The establishment of a control system which identifies and locates each piece of operating equipment, a description of the maintenance needs, a list of the general procedures for carrying out the job, and appropriate routine maintenance schedules.

4.3.1.2 A spare-parts inventory to facilitate advance ordering of unit parts vital to the continous and effective operation of the facility.

4.3.2 Plants should have a management system for recording equipment maintenance and repairs. This system should permit an evaluation of equipment performance and of future maintenance or replacement of a part or unit with one that is more reliable.

4.3.3 Preventive maintenance shall commence immediately upon installation of the equipment and not be delayed until the facility is placed in operation.

4.3.4 When possible, major maintenance jobs and repairs necessitating a shut-down of a unit shall be scheduled when it will have the least effect on waste treatment efficiency and the receiving waters.

5.0 SAFETY

5.1 PL 92-500 Basis

Section 204(a)(4) of PL 92-500 requires assurance of proper and efficient operation of facilities. Safety will be considered an integral component of such assurances. Safety of personnel, and safety and operational integrity of equipment directly affect the capability of a facility to perform its design functions. Therefore, both design for safety and safety procedures must be considered in engineering for proposed facilities.

5.2 Relation to OSHA

Section 18(b) of Public Law 91-59b, the Occupational Safety and Health Act of 1970 provides that any State may assume responsibility for development and enforcement of occupational safety and health standards. One condition under this responsibility is that the State shall assure, "... to the extent permitted by its law ... (a) program applicable to all employees of ... the State and its political subdivisions ..."

This provision ultimately will assure for participating States that all wastewater treatment facilities are covered at the State level by safety and health standards and are subject to equivalent requirements and actions to those contained in Federal legislation.

5.3 Grantee Responsibility

5.3.1 Grantees should determine the status of occupational safety and health programs and legislation in their State and provide in-plant programs that are consistent with existing or projected State requirements.

5.3.2 Construction contractors assigned the responsibilities for building facilities are already covered by the Federal legislation and are responsible for the safety and health of their employees. Therefore, it is in the grantee's best

interest to review the contractor's activities to avoid potential delays due to infractions of applicable construction standards.

5.4 Guidance Sources

5.4.1 The Environmental Protection Agency has prepared two technical bulletin supplements to these guidelines:

a. Safety in the Design of Wastewater Treatment Works

b. Safety in the Operation and Maintenance of Wastewater Treatment Works

These documents are available as aids to analyzing hazards and establishing responsive safety and health programs.

5.4.2 Other sources of aid, guidance and training are:

a. State Occupation Safety and Health Agencies

b. OSHA-Regional Offices

c. EPA Regional Offices

d. Professional and Technical Associations

6.0 EMERGENCY OPERATING PLAN

6.1 To protect the health and welfare of municipal wastewater treatment plant personnel, and to minimize adverse effects in times of emergencies, wastewater treatment facilities constructed under P.L 92-500 grants should have included in the operation and maintenance manual, a section establishing a comprehensive plan for emergency operating procedures.

6.2 Wastewater Treatment equipment suppliers should include emergency operating instructions with all equipment. This will enable the consulting engineer to incorporate this information as he prepares the operation and maintenance manual. Also, the consulting engineers, using emergency equipment instructions, may make an evaluation of equipment with regard to flexibility during emergencies. An evaluation of this type will allow plant personnel to respond more efficiently to emergencies affecting the equipment.

6.3 The plan should insure the most effective operation possible under emergency conditions.

6.4 The plan should protect the waste treatment facilities under all foreseeable emergency conditions. It should be complete and comprehensive and should include, but not be limited to, the following:

a. Effects of Emergencies

b. Vulnerability Analysis of the System

c. Protective Measures

d. Responses to Emergencies

e. Emergency Response Program

6.5 The emergency operating plan must be periodically updated to insure current measures and responses are valid. Mutual aid agreements and notification procedures may change and must be validated periodically to enable the emergency operating plan to function properly.

7.0 MAINTENANCE MANAGEMENT

7.1 General

Section 204(a)(4) of the Act requires the grantee to provide assurance that a plant will be staffed with qualified personnel and that it will be operated and maintained in accordance with an operational plan. A maintenance management system is an essential component of the required operational plan.

7.2 Requirements

The grantee should begin development of the maintenance management system at the design stage. Components to be considered during design are:

7.2.1 Equipment numbering system should be assigned in some logical order to plant equipment so that both equipment function and location are evident in the identification number.

7.2.2 An equipment catalog should be prepared during equipment installation displaying plant identifying codes, manufacturer and vendor information, equipment description and other pertinent information.

7.2.3 Supporting equipment records should be developed as appropriate to the size of the plant. However, minimum requirements would include a maintenance log or its equivalent for each unit operation of the facility. Such records should include: equipment code and serial number; date maintenance performed; name(s) of worker(s) assigned; time required to complete scheduled or corrective maintenance; supplies/parts used.

7.2.4 Maintenance and trouble shooting guide documents for each unit process and supporting equipment.

Several of the above items are also subject to inclusion in the O&M manual. The intent of this section is not to require duplication of such items, only to assure their availability.

7.3 Other Considerations

Effective maintenance management is also a function of how well maintenance requirements and work force capabilities have been considered in facility design. An EPA source document, EPA-430-99-74-001, Design Criteria for Mechanical Electrical and Fluid System and Component Reliability, covers some maintenance design requirements.

7.3.1 In reviewing maintenance design factors, the grantee should also consider:

7.3.1.1 Maintenance safety factors affecting the protection of equipment from damage during normal and maintenance operations and the safety of maintenance personnel while working on the equipment.

7.3.1.2 The display of essential maintenance information at or near the equipment and the methods to be used for display.

7.3.1.3 Handling, removal and replacement factors to assure that appropriate clearances, connections and handling devices to expedite maintenance have been incorporated in major components.

7.3.1.4 Tool requirements avoiding need for specialized or unique tools where possible.

7.3.1.5 Alignment and keying requirements where connectors or other devices which must be precisely orientated are used.

7.3.1.6 Manual control layout requirements providing for location and design of controls to facilitate maintenance operations.

7.3.1.7 Workspace configuration covering both on site maintenance space and shop layout and design.

7.3.1.8 Accessability covering design of equipment so that all components can be reached easily and comfortably with tools and test equipment without undue effort or removal of other parts.

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7.3.1.9 Special attention should be given to location and accessibility of sampling points. Junction boxes, access manholes, or pipe taps should be provided at appropriate locations.

8.0 REQUIREMENTS FOR OPERATION AND MAINTENANCE MANUALS

8.1 The Federal Water Pollution Control Act Amendments of 1972 state that:

> No grant shall be made until the applicant has made satisfactory provision for assuring proper and efficient operation and maintenance of the treatment works after completion of construction.

8.2 The review of operating manuals will consider all factors relative to this objective. The manual must be reviewed and approved by the State and EPA at least 30 days prior to plant start-up.

8.2.1 The operation and maintenance manual shall contain a simplified schematic diagram of major pipelines, valves, and controls. Additional diagrams shall contain enlarged detail of complicated piping areas. The pipelines, valves, and controls will be clearly marked as referenced in the detailed operation procedures.

8.2.2 The various manufacturers' maintenance schedules (daily, weekly, monthly, etc.) shall be summarized with reference to the page in the manufacturer's operation and maintenance manual. Also, a cross-reference lubricant chart indicating equal lubricants produced by various major manufacturers shall be furnished.

8.2.3 In regard to types of treatment the manual will contain technical detail in simplified language, describing precisely how each process should be operated and controlled for maximum effectiveness. Manufacturer's manuals should be referenced when useful to this explanation.

8.2.4 The operation and maintenance manual shall contain emergency procedures and provide appropriate instructions to treatment facility personnel to insure that they know their assigned responsibilities for properly responding to various types of emergency

situations and thus eliminate or minimize resulting adverse effects from such incidents.

8.3 For further detail on preparation of O&M manuals see EPA publication EPA-430/9-74-001, Considerations for Preparation of Operation and Maintenance Manuals.

9.0 FINANCIAL CONTROLS AND RESPONSIBILITIES

Financial controls are an integral part of plant operation, and should be developed in advance of construction by the owner. Such controls are necessary to help management provide a system for economical and efficient operation and maintenance. Financial responsibility extends beyond the routine and obvious need for care of current public funds to the need for establishing a fund to provide for the replacement of short-lived equipment and supplies and the ultimate replacement of the plant itself.

These Guidelines are not intended to be all-inclusive. However, the items referenced are those which deserve emphasis and any system should include (but not be limited to) them.

Annual budgets should be based on All direct and indirect costs associated with the operation and maintenance of the treatment plant, including but not limited to:

9.1 Employee salaries and benefits.

9.2 Training costs for entry, update and upgrade of employees.

9.3 Operation, maintenance, administrative and ancillary equipment and supplies.

9.4 Power charges and similar expenses for utility uses.

10.0 References

The following source documents are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402:

10.1 Considerations for Preparation of Operation and Maintenance Manuals, EPA-430/9-74-001

10.2 Start-up of Municipal Wastewater Treatment Facilities, EPA-430/9/74 008

10.3 Maintenance Management Systems for Municipal Wastewater Facilities, EPA-430/9-74-004

10.4 Estimating Staffing for Municipal Wastewater Treatment Facilities, March 1973, U.S. EPA

10.5 Estimating Laboratory Needs for Municipal Wastewater Treatment Facilities, Task Order No. 5501-00651

10.6 Emergency Planning for Municipal Wastewater Treatment Facilities, EPA-430/9-74-013

10.7 Aspects of State-Wide Emergency Response Programs for Municipal Wastewater Treatment, EPA 430/9-74-014

10.8 A Planned Maintenance Management System for Municipal Wastewater Treatment Plants, EPA-600/2-73-004, November 1973

U.S. GOVERNMENT PRINTING OFFICE: 1975-

Supplement to Federal Guidelines: Design, Operation & Maintenance of Wastewater Treatment Facilities

(September 1970)

U. S. ENVIRONMENTAL PROTECTION AGENCY - OFFICE OF WATER PROGRAMS

DESIGN SERIES

TECHNICAL BULLETIN NO. D-71-1 October 15, 1971

STORAGE AND HANDLING FACILITIES FOR CHEMICALS UTILIZED IN WASTEWATER TREATMENT

Purpose

To ensure that adequate protection is provided wastewater treatment plant personnel when chemicals are used in the treatment process.

Applicability

This Technical Bulletin provides design guidelines for the safe storage and handling of chemicals used in the treatment of wastewater, as opposed to those normally used for laboratory purposes only.

Definitions

A hazardous chemical is defined (for the purpose of this Bulletin) as any substance, mixture, or compound which is corrosive or toxic.

A. Corrosive Chemical. Any substance, mixture, or compound which is capable of destroying living tissue and which has a destructive effect on other substances.

B. Toxic Chemical. Any gas, liquid, or solid which, through its chemical properties, can produce injurious or lethal effects.

Background

The quantity of chemicals utilized in the treatment of wastewater has increased significantly in recent years and will continue to increase in the future due to the construction of wastewater treatment facilities providing very high degrees of treatment for nutrient removal or other substances requiring more sophisticated treatment processes. The use of these chemicals requires that certain safety measures be designed into treatment facilities in order to protect supervisory, operating, and other personnel. At the present time, several references are available presenting criteria to ensure the design of safe wastewater treatment facilities. Two such references are:

1. "Sewage Treatment Plant Design," Manual of Practice No. 8, Water Pollution Control Federation, 3900 Wisconsin Avenue, Washington, D. C. 20016.

2. "Safety in Wastewater Works," Manual of Practice No. 1, Water Pollution Control Federation.

The guidelines presented here for the design of storage and handling facilities for hazardous chemicals are intended to supplement these references and are specifically oriented to those chemicals commonly used in wastewater treatment (sodium hydroxide, methyl alcohol, iron and aluminum salts, polymers, etc.).

Action

For projects seeking Federal funds under PL 84-660, as amended, ensure that the following provisions (in addition to the requirements of applicable State, local, and/or other Federal regulations) are met:

A. Storage and Handling Facilities for Chlorine. The information contained in the "Chlorine Manual" (published by the Chlorine Institute, Inc., 342 Madison Avenue, New York, N.Y. 10017) in conjunction with that contained in WPCF Manuals of Practice No. 1 and No. 8 should be the basis for design of storage and handling facilities for chlorine. Further information on the subject is contained in many publications, including those of chlorine manufacturers. However, deviation from the basic material contained in these three documents is not recommended.

B. Storage and Handling Facilities for Chemicals other than Chlorine.

1. Materials and devices for use in storing, transporting, mixing, or in any way contacting, or expected to be in contact with hazardous chemicals should be compatible with the chemical(s) involved. This includes, but is not limited to, storage tanks, piping, pumps, valves, splash or spray guards, drains, metering devices, and tank and pipe supports. Buried piping and storage tanks should also be coated to retard corrosive action.

   References available for determining the specific properties and effects of the chemical(s) involved include:

   a. "Chemical Data Guide for Bulk Shipment by Water," U.S. Coast Guard Publication No. CG-388. Available from U.S. Government Printing Office, Washington, D. C. 20402.

   b. "Chemical Safety Data Sheets," Manufacturing Chemists Association, 1825 Connecticut Avenue, N.W., Washington, D. C. 20009.

   c. "Evaluation of the Hazard of Bulk Water Transportation of Industrial Chemicals," National Research Council. Available from Clearinghouse for Federal, Scientific and Technical Information, Springfield, Virginia 22151 as PB 189845.

   d. "Hazardous Chemical Data," Publication No. 49, National Fire Protection Association, 60 Batterymarch Street, Boston, Massachusetts 02110.

   e. "Dangerous Properties of Industrial Materials," 3rd Edition, N. Irving Sax, Reinhold Book Corporation, New York, N.Y., 1968.

   f. "Industrial Hygiene and Toxicology," Volume II, 2nd Edition, F. A. Patty, Interscience Publishers, New York, N.Y., 1963.

   g. "Water Treatment Plant Design," American Water Works Association, 2 Park Avenue, New York, N.Y. 10016.

2. Dikes or curbs capable of holding the stored volume plus a safety factor of 25 percent should be provided in each liquid chemical storage area.

3. Adequate drainage should be provided in all chemical storage and working areas. In no case should these drains discharge directly into sewers, streams, or treatment plant flow. Preferably, spilled material should drain to a sump from which it can be disposed of safely or recovered for further use.

4. Adequate ventilation should be provided in all areas in which hazardous chemical mist or dust is present. Where general or space ventilation is utilized, a minimum of fifteen (15) complete air changes per hour should be produced. Waste air should be cleaned prior to discharge to the outer atmosphere to reduce contaminants to acceptable limits.

5. Dust collection equipment should be provided to protect operating personnel from dusts hazardous to their health and to prevent walkways from becoming slippery.

6. Piping systems for the transportation of hazardous chemicals should meet the following requirements:

   a. All joints and connections, permanent or temporary, should have splash guards capable of directing leakage away from areas occupied by personnel.

   b. All piping should be identified with labels as to the material being transported. Color coding is not an adequate substitute for labeling, but should also be used. Labels should be spaced no further than ten feet apart and at least one label is required in each room, closet, or pipe chase.

   c. Piping should be adequately supported and sloped.

7. All pumps or feeders for hazardous chemicals should have effective spray guards.

8. Eye wash fountains and safety showeres meeting the following requirements should be provided:

   a. The distance between eye wash fountain or shower and further possible point of hazardous chemical exposure should not exceed 25 feet.

   b. Potable water should be utilized in each.

   c. Eye wash fountain should be capable of providing 30 minutes of continuous eye irrigation.

   d. Safety shower should be capable of providing 30 to 50 gpm at pressures of 20 to 50 psi. Shower nozzle should be 7 to 8 feet above floor level.

   e. Some form of alarm system should be available to alert other personnel when either eye wash fountain or safety shower is being used.

9. All storage containers, permanent or temporary, should be properly labeled as to contents in accordance with Manufacturing Chemists Association Publication L-1, "Guide to the Precautionary Labeling of Hazardous Chemicals."

10. Areas in which chemicals are stored should be cool and free from moisture. Ensure also that chemicals which react violently with each other are not stored in close proximity to each other.

11. Adequate storage space and facilities should be available for safety equipment (masks, goggles, portable blowers, etc.) to prevent their damage.

12. Storage facilities for emergency first-aid equipment should be adequate in size and in close proximity to hazardous areas. Preferably, one such facility should be located in each area where hazardous chemicals are present.

13. All areas in which hazardous chemicals are stored or utilized should be posted with signs giving adequate warning and instructions to be followed in case of emergency.

The above steps are aimed at protectiong plant personnel basically through preventing accidental releases of hazardous chemicals. However, it should be recognized that accidental releases may occur and adequate plans should be developed for handling such occurrences in order to protect the environment as well as personnel. EPA has developed guidelines relating to the prevention and control of spillage of hazardous polluting substances and for the development of contingency plans for such spills. It is recommended that these guidelines be used as the basis for developing spill prevention and control plans for chemicals utilized in wastewater treatment facilities. The following documents should be consulted (both are available from U.S. Government Printing Office, Washington, D. C. 20402):

1. Goodier, J.L., et al, "Spill Prevention Techniques for Hazardous Polluting Substances," Final Report of EPA-WQO Contract No. 14-12-927 (Feburary 1971).

2. Dawson, G.W., et al, "Control of Spillage of Hazardous Polluting Substances," Final Report of FWQA Contract No. 14-12-866 (November 1970).

Supplement to Federal Guidelines: Design, Operation & Maintenance of Wastewater Treatment Facilities

(September 1970)

U. S. ENVIRONMENTAL PROTECTION AGENCY - OFFICE OF WATER PROGRAMS

DESIGN SERIES

TECHNICAL BULLETIN NO. D-71-2 October 15, 1971

USE OF MERCURY IN WASTEWATER TREATMENT PLANT EQUIPMENT

Purpose

To establish design criteria with regard to the use of mercury in equipment used in wastewater treatment facilities.

Background

Mercury has been established as a particularly hazardous source of contamination to the aquatic environment. Ample evidence exists to demonstrate that mercury in many different forms is toxic to living systems, including man. Since 1953 a significant number of deaths have been reported from mercury poisoning. There have also been reports of deaths of wildfowl attributed to this substance. It is essential, therefore, that all sources of mercury pollution be eliminated. The use of mercury in certain wastewater treatment plant devices is one potential source of mercury pollution due to the quantity of mercury used, the proximity of the mercury to the wastewater being treated, and the high probability of mercury losses reaching receiving waters. Models of these devices in which mercury is not utilized are available from most major manufacturers of treatment plant equipment.

Action

Effective this date, the use of mercury as seals in trickling filter flow distributors and comminutors is not acceptable for new wastewater treatment facilities constructed under PL 84-660, as amended. Wastewater

treatment facilities for which Federal funding is requested under PL 84-660 shall be designed to incorporate trickling filter flow distributors and comminutors in which mercury is not utilized. Further, all other equipment, devices, and/or appurtenances in which mercury is incorporated and which are intended for use in new wastewater treatment facilities shall be listed and forwarded for approval by the State water pollution control agency and the Office of Water Programs, Environmental Protection Agency, prior to construction and installation.

Supplement to Federal Guidelines: Design, Operation & Maintenance of Wastewater Treatment Facilities (September 1970)

U. S. ENVIRONMENTAL PROTECTION AGENCY - OFFICE OF WATER PROGRAMS

DESIGN SERIES

TECHNICAL BULLETIN NO. D-71-3 October 15, 1971

USE OF NEW AND ADVANCED WASTEWATER TREATMENT TECHNOLOGY

Purpose

To modify the Federal Guidelines for Design, Operation and Maintenance of Wastewater Treatment Facilities with regard to requirements for proposed Section 8, PL 84-660 projects utilizing new and advanced wastewater treatment technology.

Background

The application of the latest available technological advances to this generation of wastewater treatment facilities holds a high priority within the Environmental Protection Agency. In order to meet established water quality standards within defined implementation time frames, it is essential that advanced waste treatment techniques (processes designed to remove pollutants not normally removed by conventional secondary treatment processes) and improvements in conventional waste treatment methods be incorporated in the President's expanded program for construction of wastewater treatment facilities. A Technology Transfer Program has been established within the Environmental Protection Agency to disseminate information on currently available technology to potential users to assure that treatment facilities presently being planned will take advantage of the latest developments. In addition, new technology will be transmitted as it is developed in order to be available for wastewater treatment facilities that will be planned, designed, and constructed in the immediate future.

To encourage the use of such technological developments, the Federal Guidelines relating to Section 8, PL 84-660 projects incorporating new treatment processes or equipment (Part B, Section VI) have been modified. The specific reference to performance guarantees has been removed; and the requirement for prior approval of the State and FWQA (EPA-OWP) before preparation of plans and specifications has been deleted. The project specifications must still include performance criteria acceptable to the State and EPA. A performance guarantee may be required for equipment which does not meet a specified experience period. However, it is the practice of EPA-OWP to discourage the general use of experience clauses. Only in special cases, and with adequate justification, may an experience clause be used.

Action

Replace page 23 of the original issuance (September 1970) of the Federal Guidelines for Design, Operation and Maintenance of Wastewater Treatment Facilities with the attached page 23 which incorporates changes to Part B, Section VI.

VI. New and Advanced Processes or Equipment

a. EPA-Office of Water Programs encourages the development and application of new approaches to wastewater treatment plant design.

b. Aid for the construction and operation of facilities demonstrating experimental processes or equipment is available under the EPA Research, Development and Demonstration Program.

c. Section 8, PL 84-660 grant funds are available for facilities incorporating successfully demonstrated new processes or equipment, providing the project is reasonable in scope and preliminary investigations are favorable. In such cases, the contract specifications must include details on performance criteria that are acceptable to the State and EPA.

VII. Flexibility and Ease of Operation and Maintenance

a. The design of process piping, equipment arrangement, and unit structures in the facility must allow for efficiency and convenience in operation and maintenance and provide maximum flexibility of operation. Such

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TECHNICAL BULLETIN

DESIGN CRITERIA FOR MECHANICAL, ELECTRIC, AND FLUID SYSTEM AND COMPONENT RELIABILITY

Supplement to Federal Guidelines for Design, Operation, and Maintenance of Waste Water Treatment Facilities

(issued 1974)

Office of Water Program Operations
U.S. Environmental Protection Agency
Washington, D. C. 20460

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402

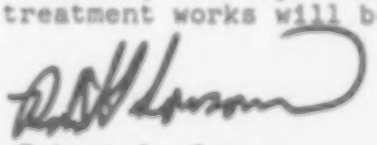
FOREWORD

In response to the recent clean water legislation, this country will undertake an unprecedented building program for new and improved municipal wastewater treatment works. It is the responsibility of the EPA to ensure that the Federal funds authorized under Title II of PL 92-500 for this program will be justifiably spent. Accordingly, we must ensure that these works have been designed with a high degree of technical excellence and will operate effectively day in and day out. As a part of this effort, this Technical Bulletin provides a national standard to help ensure that unacceptable degradation of the works' effluent does not occur from time to time as a result of periodic maintenance or the malfunctioning of mechanical, electric, and fluid systems and components.

To assure a workable and effective document, we have involved all sectors of the wastewater treatment industry in the development and review of this Technical Bulletin. In this regard, I particularly wish to thank the EPA Technical Advisory Group for Municipal Waste Water Systems for their advice and counsel.

The design criteria contained in this Technical Bulletin are meant to be specific enough to have force and meaning, yet have administrative flexibility so as to permit innovation as to how the intent of the criteria will be met in each individual case. It is our intent to update and revise these criteria as experience dictates.

I am confident that through the continued efforts and cooperation of the engineering profession, the objective of improved reliability of wastewater treatment works will be achieved.



Robert L. Sansom
Assistant Administrator
for Air and Water Programs

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DESIGN CRITERIA FOR MECHANICAL, ELECTRIC, AND FLUID SYSTEM AND COMPONENT RELIABILITY

Purpose

The purpose of this Technical Bulletin is to amplify and supplement the Federal Guidelines for Design, Operation, and Maintenance of Wastewater Treatment Facilities with regard to establishing minimum standards of reliability for mechanical, electric, and fluid systems and components. This Technical Bulletin provides reliability design criteria for wastewater treatment works projects seeking Federal financial assistance under PL 92-500.

Applicability of Technical Bulletin

New treatment works and additions or expansions to existing treatment works shall comply with this Technical Bulletin. Portions of existing works, for which the addition or expansion is dependent for reliable operation, shall comply with this Technical Bulletin to the degree practicable. There may be some treatment works for which fulfillment of some of the design criteria may not be necessary or appropriate. There will be other cases in which these criteria are insufficient, and additional criteria will be identified by the Regional Administrator. It is expected that additional criteria may be needed

for unusual environmental conditions and for new processes. Within this context, the design criteria should be used as a reference, allowing additions or deletions as an individual case may warrant.

A basic requirement specified in these criteria is component backup. However, system reliability can also be attained through flexibility in the design and operation of systems and components. This document does not attempt to define requirements for system flexibility.

Definitions

The following definitions apply to the terms used in this Technical Bulletin:

Component - A single piece of equipment which performs a specific function in the wastewater treatment works. In this context a component may be an entire piece of process equipment (e.g., sedimentation basin or vacuum filter) or may be a single piece of equipment (e.g., a valve or a pump).

Controlled Diversion - Diversion in a controlled manner of inadequately treated wastewater around the treatment works to navigable waters.

Design Flow - That flow used as the basis of design of a component and/or system.

Design Period - The period of time from first operation to the year at which the treatment works is expected to treat the design flow.

Effluent Limitation - Any restriction established by a State or the EPA Administrator on quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources into navigable waters, the waters of the contiguous zone, or the ocean, including schedules of compliance.

Fluid System - A system within the treatment works which contains liquid or gaseous fluids. This includes the main wastewater treatment system, parts of the sludge handling and disposal system, and auxiliary systems.

Hydraulic Capacity - The maximum flow capacity of a component which does not result in flooding or overflowing.

Navigable Waters - The waters of the United States, including the territorial seas, as defined in PL 92-500.

Peak Wastewater Flow - The maximum wastewater flow expected during the design period of the treatment works.

Reliability - A measurement of the ability of a component or system to perform its designated function without failure. In this Technical Bulletin, reliability pertains to mechanical, electric, and fluid systems and components only and includes the maintainability of those systems and components. Reliability of biological processes, operator training, process design, or structural design is not within the scope of this Technical Bulletin. The reliability aspects related

to works' influent from combined sewers are not within the scope of this Technical Bulletin.

Unit Operation - An operation involving a single physical or chemical process. Examples of a unit operation are comminuting, mixing, sedimentation, aeration, and flocculation.

Vital Component - A component whose operation or function is required to prevent a controlled diversion, is required to meet effluent limitations, or is required to protect other vital components from damage.

Wastewater Treatment Works - The works that treats the wastewater, including the associated wastewater pumping or lift stations, whether or not the stations are physically a part of the works. Holding ponds or basins are considered included, whether or not the ponds or basins are physically a part of the works.

Terms Used in Specifying Criteria

The following are clarifications of terms used in specifying criteria in this Technical Bulletin:

Shall - Used to specify criteria which are mandatory. Departure from these criteria requires a Departure Request to be submitted by the Grant Applicant and approval of the request by the Regional Administrator.

- Permissible - Used to clarify the intent of mandatory criteria by giving examples of designs which are in conformance with the criteria.
- Consideration and Where Practicable - Used to specify criteria which shall be considered by the Grant Applicant, but which are not mandatory.

Reliability Classification

This Technical Bulletin establishes minimum standards of reliability for three classes of wastewater treatment works. Unless identified as applying to a particular class, all criteria contained in this document apply equally to all three classes. The reliability classification shall be selected and justified by the Grant Applicant, subject to the approval of the Regional Administrator, and shall be based on the consequences of degradation of the effluent quality on the receiving navigable waters. This document does not specify requirements for classifying works; however, suggested guidelines are:

Reliability Class I — Works which discharge into navigable waters that could be permanently or unacceptably damaged by effluent which was degraded in quality for only a few hours. Examples of Reliability Class I works might be those discharging near drinking water reservoirs, into shellfish waters, or in close proximity to areas used for water contact sports.

Reliability Class II

Works which discharge into navigable waters that would not be permanently or unacceptably damaged by short-term effluent quality degradations, but could be damaged by continued (on the order of several days) effluent quality degradation. An example of a Reliability Class II works might be one which discharges into recreational waters.

Reliability Class III

Works not otherwise classified as Reliability Class I or Class II.

Note: Pumping stations associated with, but physically removed from, the actual treatment works could have a different classification from the works itself.

100. WORKS DESIGN CRITERIA

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100. WORKS DESIGN CRITERIA

110. WORKS LOCATION

The potential for damage or interruption of operation due to flooding shall be considered when siting the treatment works. The treatment works' structures and electrical and mechanical equipment shall be protected from physical damage by the maximum expected one hundred (100) year flood. The treatment works shall remain fully operational during the twenty-five (25) year flood, if practicable; lesser flood levels may be permitted dependent on local situations, but in no case shall less than a ten (10) year flood be used. Works located in coastal areas subject to flooding by wave action shall be similarly protected from the maximum expected twenty-five (25) and one hundred (100) year wave actions.

Existing works being expanded, modified, upgraded or rehabilitated shall comply with these criteria to the degree practicable.

The flood and wave action elevations used to implement these criteria shall be determined and justified by the Grant Applicant, using available data sources where appropriate. Elevations for

a specific location may be available from local or state studies as well as studies by the following Federal organizations: U.S. Army Corps of Engineers, U.S. Geological Survey, U.S. Soil Conservation Service, National Oceanic and Atmospheric Administration, and Tennessee Valley Authority.

The works shall be accessible in all normal seasonal conditions, including the expected annual floods.

120. PROVISIONS FOR WORKS EXPANSION AND/OR UPGRADING

All new works and expansions to existing works shall be designed for further expansion except where circumstances preclude the probability of expansion. During a works' upgrading or expansion the interruption of normal operation shall be minimized and shall be subject to the approval of the Regional Administrator.

130. PIPING REQUIREMENTS

131. Pipes Subject to Clogging

131.1 Provisions for Flushing of Pipes

The works shall have provisions for flushing with water and/or air all scum lines, sludge lines, lime feed and lime sludge lines, and all other lines which are subject to clogging. The design shall be such that flushing can be accomplished without causing violation of effluent limitations or without cross-connections to the potable water system.

131.2 Provisions for Mechanical Cleaning of Pipes

All piping subject to accumulation of solids over a long period of time shall have sufficient connections and shall be arranged in a manner to facilitate mechanical cleaning. This may include the main wastewater treatment process piping, service water system piping, and sludge process piping. Special attention shall be paid to piping containing material which has a tendency to plug, such as scum lines, drain lines, and lime sludge lines. System design shall be such that the mechanical cleaning can be accomplished without violation of effluent limitations.

132. Provisions for Draining Pipes

Where practicable, all piping shall be sloped and/or have drains (drain plug or valve) at the low points to permit complete draining. Piping shall be installed with no isolated pockets which cannot be drained.

133. Maintenance and Repair of Feed Lines

Lines feeding chemicals or process air to basins, wetwells, and tanks shall be designed to enable repair or replacement without drainage of the basins, wetwells or tanks.

140. COMPONENT MAINTENANCE AND REPAIR REQUIREMENTS

141. Component Repair

Every vital mechanical component (mechanical components include such items as pumps, bar screens, instrumentation and valves, but not piping, tanks, basins, channels, or wells) in the works shall be designed to enable repair or replacement without violating the effluent limitations or causing a controlled diversion. To comply with this requirement, it is permissible to use the collection system storage capacity or holding basins and to perform maintenance during the low influent flow periods. This requirement applies to shutoff and isolation valves. Provisions shall be made in the initial works design to permit repair and replacement of these types of valves.

Example: This criterion applies to the isolation valves of main wastewater pumps. The followirg are examples of ways these valves could be maintained. Pump suction isolation valves can be maintained if the works has a two compartment main pump wetwell and if the works can continue operation (during the diurnal low flow period, for example) with one part of the wetwell isolated. Pump discharge isolation valves connected to a pressurized outlet header can be maintained if the collection system storage capacity is sufficiently large to permit all main wastewater pumps to be stopped (collection system storage capacity is used) while the valve in question is removed and blind flanges installed.

142. Component Access Space

Adequate access and removal space shall be provided around all components to permit easy maintenance and/or removal and replacement without interfering with the operation of other equipment. Components located inside buildings or other structures shall be removable without affecting the structural integrity of the building or creating a safety hazard. Normal disassembly of the component is permissible for removal and replacement. This criterion is not intended to be applicable to the removal or replacement of large tanks, basins, channels, or wells.

Note: This criterion requires that consideration be given to the sizing of doors, stairways, hallways, hatches, elevators and other access ways in the initial works design. It also requires that special thought be given to the physical layout of piping systems and components in the initial design, especially to components located above and below the ground level of buildings and to unusually large components. The complete path of removal from in-plant location, through hatches, doors and passageways, to a truck or other service vehicle should be checked and defined for each component.

143. Component Handling

The works shall have lifting and handling equipment available to aid in the maintenance and replacement of all components. In addition, the placement of structures and other devices, such as pad-eyes and hooks, to aid component handling shall be considered in the initial design. This is particularly

important for large and/or heavy components which require special handling and lifting equipment. Means shall be provided for removal of components located above and below the ground level of buildings and other structures. This criterion is not intended to be applicable to the removal or replacement of large tanks, basins, channels, or wells.

144. Essential Services

Essential services, such as water, compressed air, and electricity, shall be made available throughout the works where required for cleaning, maintenance, and repair work. To facilitate cleaning wetwells, tanks, basins and beds, water (supplied from a non-potable water system or the works' effluent) shall be supplied at these points by means of a pressurized water system with hydrants or hose bibs having minimum outlet diameters of one inch.

150. ISOLATION OF HAZARDOUS EQUIPMENT

Equipment whose failure could be hazardous to personnel or to other equipment shall have means for isolation, such as shutoff valves, or shutoff switches and controls located away from the equipment to permit safe shutdown during emergency conditions.

200. SYSTEM DESIGN CRITERIA

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200. SYSTEM DESIGN CRITERIA

210. WASTEWATER TREATMENT SYSTEM

The wastewater treatment system includes all components from and including the bar screens and wastewater pumps to and including the works outfall.

211. System Requirements

The wastewater treatment system shall be designed to include the following:

211.1 Trash Removal or Comminution

The system shall contain components to remove and/or comminute trash and all other large solids contained in the wastewater.

211.2 Grit Removal

The system shall contain components to remove grit and other heavy inorganic solids from the wastewater. This requirement shall not apply to types of treatment works which do not pump or dewater sludge, such as waste stabilization ponds.

211.3 Provisions for Removal of Settled Solids

All components, channels, pump wells and piping prior to the degritting facility or primary sedimentation basin shall be accessible for cleaning out settled solids. The provisions shall enable manual or mechanical cleaning of equipment on a periodic basis without causing a controlled diversion or causing violation of effluent limitations.

211.4 Treatment Works Controlled Diversion

Wastewater treatment works shall be provided with a controlled diversion channel or pipe sized to handle peak wastewater flow. Actuation of the controlled diversion shall be by use of a gravity overflow. The overflow elevation shall be such that the maximum feasible storage capacity of the wastewater collection system will be utilized before the controlled diversion will be initiated. The controlled diversion flow shall be screened to remove large solids unless the wastewater flow has been previously screened. The actuation of a controlled diversion shall be alarmed and annunciated (see Paragraph 243 of this Technical Bulletin), and the flow shall be measured and recorded.

All Reliability Class I wastewater treatment works shall have a holding basin to augment the storage capacity of the collection system. The controlled diversion system and the holding basin shall be designed to permit the wastewater retained by the holding basin to be fully treated in the wastewater treatment works. The capacity of the holding basin shall be sized by the Grant Applicant based on the constraints and conditions applicable to that specific treatment works.

211.5 Unit Operation Bypassing

The design of the wastewater treatment system shall include provisions for bypassing around each unit operation, except as follows. The term unit operation does not apply to pumps in the context of this criterion. Unit operations with two or more units and involving open basins, such as sedimentation basins, aeration basins, disinfectant contact basins, shall not be required to have provisions for bypassing if the peak wastewater flow can be handled hydraulically with the largest flow capacity unit out of service. All other unit operations with three or more units shall not be required to have provisions for bypassing if the peak wastewater flow can be handled hydraulically with the two largest flow capacity units out of service.

The comminution facility shall be provided with a means for bypassing regardless of the number and flow capacity of the comminutors.

The bypassing system for each unit operation shall be designed to provide control of the diverted flow such that only that portion of the flow in excess of the hydraulic capacity of the units in service need be bypassed. With the exception of the comminution facility, which shall have a gravity overflow, the actuation of all other unit operation bypasses shall require manual action by operating personnel. All power actuated bypass valve operators shall be designed to enable actuation with loss of power and shall be designed so that the valve will fail as is, upon failure of the power operator. A disinfection facility having a bypass shall contain emergency provisions for disinfection of the bypassed flow.

212. Component Backup Requirements

Requirements for backup components for the main wastewater treatment system are specified below for Reliability Class I, II, and III works.

Except as modified below, unit operations in the main wastewater treatment system shall be designed such that, with the largest flow capacity unit out of service, the hydraulic

capacity (not necessarily the design-rated capacity) of the remaining units shall be sufficient to handle the peak wastewater flow. There shall be system flexibility to enable the wastewater flow to any unit out of service to be distributed to the remaining units in service.

Equalization basins or tanks shall not be considered a substitute for component backup requirements.

212.1 Reliability Class I

For components included in the design of Reliability Class I works, the following backup requirements apply.

212.1.1 Mechanically-Cleaned Bar Screens or Equivalent Devices

A backup bar screen shall be provided. It is permissible for the backup bar screen to be designed for manual cleaning only. Works with only two bar screens shall have at least one bar screen designed to permit manual cleaning.

212.1.2 Pumps

A backup pump shall be provided for each set of pumps which performs the same function. The capacity of the pumps shall be such that with any one pump out of service, the remaining pumps will have capacity to handle the peak flow. It is permissible for one pump to serve as backup to more than one set of pumps.

212.1.3 Comminution Facility

If comminution of the total wastewater flow is provided, then an overflow bypass with an installed manually- or mechanically-cleaned bar screen shall be provided. The hydraulic capacity of the comminutor overflow bypass shall be sufficient to pass the peak flow with all comminution units out of service.

212.1.4 Primary Sedimentation Basins

There shall be a sufficient number of units of a size, such that with the largest flow capacity unit out of service, the remaining units shall have a design flow capacity of at least 50 percent of the total design flow to that unit operation.

212.1.5 Final and Chemical Sedimentation Basins, Trickling Filters, Filters and Activated Carbon Columns

There shall be a sufficient number of units of a size, such that with the largest flow capcity unit out of service, the remaining units shall have a design flow capacity of at least 75 percent of the total design flow to that unit operation.

212.1.6 Activated Sludge Process Components

212.1.6.1 Aeration Basin

A backup basin shall not be required; however, at

least two equal volume basins shall be provided. (For the purpose of this criterion, the two zones of a contact stabilization process are considered as only one basin.)

212.1.6.2 Aeration Blowers or Mechanical Aerators

There shall be a sufficient number of blowers or mechanical aerators to enable the design oxygen transfer to be maintained with the largest capacity unit out of service. It is permissible for the backup unit to be an uninstalled unit, provided that the installed unit can be easily removed and replaced. However, at least two units shall be installed.

212.1.6.3 Air Diffusers

The air diffusion system for each aeration basin shall be designed such that the largest section of diffusers can be isolated without measurably impairing the oxygen transfer capability of the system.

212.1.7 Chemical Flash Mixer

At least two mixing basins or a backup means for adding and mixing chemicals, separate from the basin, shall be provided. If only one basin is provided, at least two mixing devices and a bypass around the basin

shall be provided. It is permissible for one of the mixing devices to be uninstalled, provided that the installed unit can be easily removed and replaced.

212.1.8 Flocculation Basins

At least two flocculation basins shall be provided.

212.1.9 Disinfectant Contact Basins

There shall be a sufficient number of units of a size, such that with the largest flow capacity unit out of service, the remaining units shall have a design flow capacity of at least 50 percent of the total design flow to that unit operation.

212.2 Reliability Class II

The Reliability Class I requirements shall apply except as modified below.

212.2.1 Primary and Final Sedimentation Basins and Trickling Filters

There shall be a sufficient number of units of a size such that, with the largest flow capacity unit out of service, the remaining units shall have a design flow capacity of at least 50 percent of the design basis flow to that unit operation.

212.2.2 Components Not Requiring Backup

Requirements for backup components in the wastewater treatment system shall not be mandatory for components which are used to provide treatment in excess of typical biological (i.e., activated sludge or trickling filter), or equivalent physical/chemical treatment, and disinfection. This may include such components as:

Chemical Flash Mixer

Flocculation Basin

Chemical Sedimentation Basin

Filter

Activated Carbon Column

212.3 Reliability Class III

The Reliability Class I requirements shall apply except as modified below.

212.3.1 Primary and Final Sedimentation Basins

There shall be at least two sedimentation basins.

212.3.2 Activated Sludge Process Components

212.3.2.1 Aeration Basin

A single basin is permissible.

212.3.2.2 Aeration Blowers or Mechanical Aerators

There shall be at least two blowers or mechanical aerators available for service. It is permissible for one of the units to be uninstalled, provided that the installed unit can be easily removed and replaced.

212.3.2.3 Air Diffusers

The Reliability Class I requirements shall apply.

212.3.3 Components Not Requiring Backup

Requirements for backup components in the wastewater treatment system shall not be mandatory for components which are used to provide treatment in excess of primary sedimentation and disinfection, except as modified above. This may include such components as:

Trickling Filter

Chemical Flash Mixer

Flocculation Basin

Chemical Sedimentation Basin

Filter

Activated Carbon Column

213. Component Design Features and Maintenance Requirements

213.1 Provisions for Isolating Components

Each component shall have provisions to enable it to be isolated from the flow stream to permit maintenance and repair of the component without interruption of the works' operation. Where practicable, simple shutoff devices, such as stop logs and slide gates, shall be used.

213.1.1 Main Wastewater System Pump Isolation

The use of in-line valves to isolate the main wastewater pumps shall be minimized. It is permissible to place shutoff valves on the suction and discharge lines of each pump. However, in such a case, alternate means shall be provided for stopping flow through the pump suction or discharge lines to permit maintenance on the valves.

> Example: Pump discharge isolation and check valves are not needed if the pumps have a free discharge into an open channel rather than discharging into a pressurized discharge header. Pump suction isolation valves can be maintained if the plant has a two compartment wetwell design and if the plant can continue operation (during the diurnal low-flow period, for example) with one part of the wetwell isolated.

213.2 Component Protection

213.2.1 Protection from Overload

Components or parts of components subject to clogging, blockage, binding or other overloads shall be protected from damage due to the overload. Examples of components requiring protection include the rake mechanism of bar screens, comminuting equipment, the grit-removal mechanism in degritting facilities, and sludge and scum arms of sedimentation basins.

213.2.2 Protection from Freezing

Components or parts of components which are wetted and subject to freezing shall be designed to ensure that the components will be operable during winter climatic conditions anticipated at the works. Examples of components or parts of components which may require protection include bar screens, comminuting equipment, the grit-removal mechanism in degritting facilities, mechanical aerators and the scum arm of sedimentation basins.

213.2.3 Protection from Up-Lift Due to Ground Water

In-ground tanks and basins shall be protected from up-lift due to ground water. If sufficient ballast is not provided in each tank or basin, other means for ground water relief shall be provided.

213.3 Slide Gates

Consideration shall be given to providing mechanical operators or other mechanical assistance for slide gates which, due to their size or infrequent use, may not be easily removable by manual means alone.

213.4 Bar Screens or Equivalent Devices

213.4.1 Provisions for Manual Cleaning

Manually-cleaned bar screens or mechanically-cleaned bar screens which can be manually cleaned shall have accessible platforms above the bar screen from which the operator can rake screenings easily and safely when the screens are in operation.

213.4.2 Provisions for Lifting and Handling Equipment

The design of the equipment and the works shall contain provisions for easily and safely lifting and handling all parts of a mechanically-cleaned bar screen. Special attention shall be given to the proper location of eyes, rails, and hooks located above the equipment to facilitate lifting and handling.

213.5 Comminution Equipment and Degritting Facility

All mechanical components shall be easily removable for maintenance and repair.

213.6 Sedimentation Basins

The main drive mechanism and reducing gears shall be maintainable and repairable without draining the basin. The number of other operating parts which require draining the basin for repair and maintenance shall be minimized.

213.7 Aeration Equipment

213.7.1 Component Maintenance

Mechanical aerators or air diffusers shall be easily removable from the aeration tank to permit maintenance and repair without interrupting operation of the aeration tank or inhibiting operation of the other aeration equipment.

213.7.2 Filtration of Air

If air is supplied to fine bubble diffusers, air filters shall be provided in numbers, arrangement and capacities to furnish at all times an air supply sufficiently free from dust to minimize clogging of the diffusers.

213.8 Chemical Mixing Basin and Flocculation Basin

213.8.1 Component Maintenance

The mixing and flocculating devices shall be completely removable from the basin to allow maintenance and repair of the device, preferably without draining the basin.

213.8.2 Chemical Feed Line Cleaning

Chemical feed lines shall be designed to permit their being cleaned or replaced without draining the mixing basin or interrupting the normal flow through the basin.

213.8.3 Provisions for Isolation

Isolation valves or gates for the mixing or flocculation basin shall be designed to minimize the problems associated with operation of these devices after long periods of idleness and the resulting buildup of chemical deposits. Access and capability for cleaning debris and deposits which interfere with valve or gate closure shall be provided.

213.9 Filters and Activated Carbon Columns

There shall be easy access to the interior of carbon columns and filters to permit maintenance and repair of internal mechanisms.

220. SLUDGE HANDLING AND DISPOSAL SYSTEM

This system includes all components and unit processes from the sludge pumps servicing the sedimentation basins to the final disposal of waste products, including ancillary components. Sludge disposal includes the special handling and treatment of sludge bypassing a normal stage of treatment. In some treatment works the system may also include processes such as recalcination of lime or regeneration of activated carbon.

221. System Requirements

The sludge handling and disposal system shall be designed to include the following:

221.1 Alternate Methods of Sludge Disposal and/or Treatment

Alternate methods of sludge disposal and/or treatment shall be provided for each sludge treatment unit operation without installed backup capability.

221.2 Provisions for Preventing Contamination of Treated Wastewater

All connections (sludge, scum, filtrate, supernatant, or other contaminated water flows), direct or indirect, from the sludge handling system to the wastewater treatment system shall be at a point in the wastewater treatment system that will ensure adequate treatment.

222. Component Backup Requirements

For components included in the design of the sludge handling and disposal system of Reliability Class I, II, or III works the following backup requirements apply.

222.1 Sludge Holding Tanks

Holding tanks are permissible as an alternative to component or system backup capability for components downstream of the tank, provided the following requirements are met. The volume of the holding tank shall be based on the expected time necessary to perform maintenance and repair of the component in question. If a holding tank is used as an alternative to backup capability in a sludge treatment system which is designed for continuous operation, the excess capacity in all components downstream of the holding tanks shall be provided to enable processing the sludge which was retained together with the normal sludge flow.

222.2 Pumps

A backup pump shall be provided for each set of pumps which performs the same function. The capacity of the pumps shall be such that with any one pump out of service, the remaining pumps will have capacity to handle the peak flow. It is permissible for one pump to serve as backup

to more than one set of pumps. It is also permissible for the backup pump to be uninstalled, provided that the installed pump can be easily removed and replaced. However, at least two pumps shall be installed.

222.3 Anaerobic Sludge Digestion

222.3.1 Digestion Tanks

At least two digestion tanks shall be provided. At least two of the digestion tanks provided shall be designed to permit processing all types of sludges normally digested.

222.3.2 Mixing Equipment

If mixing is required as part of the digestion process, then each tank requiring mixing shall have sufficient mixing equipment or flexibility in system design to ensure that the total capability for mixing is not lost when any one piece of mechanical mixing equipment is taken out of service. It is permissible for the backup equipment not to be installed (e.g., a spare uninstalled digester gas compressor is permissible if gas mixing is used); not be normally used for sludge mixing (e.g., sedimentation basin sludge pumps may be used); or not be full capacity (e.g., two 50 percent-capacity recirculation pumps would comply with this requirement).

222.4 Aerobic Sludge Digestion

222.4.1 Aeration Basin

A backup basin is not required.

222.4.2 Aeration Blowers or Mechanical Aerators

At least two blowers or mechanical aerators shall be provided. It is permissible for less than design oxygen transfer capability to be provided with one unit out of service. It is permissible for the backup unit to be an uninstalled unit, provided that the installed unit can be easily removed and replaced.

222.4.3 Air Diffusers

The air diffusion system for each aeration basin shall be designed such that the largest section of diffusers can be isolated without measurably impairing the oxygen transfer capability of the system.

222.5 Vacuum Filter

There shall be a sufficient number of vacuum filters to enable the design sludge flow to be dewatered with the largest capacity vacuum filter out of service.

Note: Since the design basis of sludge dewatering equipment is often not continuous operation, this criterion does not necessarily require additional vacuum filter capacity if the installed equipment is operated on less than a 24 hour-per-day basis and if the normal operating hours can be extended on the remaining units to make up the capacity lost in the unit out of service.

222.5.1 Auxiliary Equipment

Each vacuum filter shall be serviced by two vacuum pumps and two filtrate pumps. It is permissible for the backup to the normal vacuum or filtrate pump to be an uninstalled unit, provided that the installed unit can be easily removed and replaced; or to be a cross-connect line to the appropriate system of another vacuum filter.

222.6 Centrifuges

There shall be a sufficient number of centrifuges to enable the design sludge flow to be dewatered with the largest capacity centrifuge out of service. It is permissible for the backup unit to be an uninstalled unit, provided that the installed unit can be easily removed and replaced.

Note: Since the design basis of sludge dewatering equipment is often not continuous operation, this criterion does not necessarily require additional equipment if the installed equipment is operated on less than a 24 hour-per-day basis and if the normal operating hours can be extended on the remaining units to make up the capacity lost in the unit out of service.

222.7 Incinerators

A backup incinerator is not required (see Paragraph 221.1 for requirements for alternate sludge disposal capability). Auxiliary incinerator equipment whose failure during incinerator operation could result in damage to the

incinerator shall be provided with backups (e.g., failure of a center shaft cooling fan could result in damage to the center shaft of a multi-hearth incinerator). In such cases, automatic actuation of the backup auxiliary equipment shall be provided.

223. Component Design Features and Maintenance Requirements

223.1 Provisions for Isolating Components

Each component shall have provisions to enable it to be isolated from the flow stream to permit maintenance and repair of the component without interruption of the works' operation. Where practicable, simple shutoff devices, such as stop logs and slide gates, shall be used.

223.2 Component Protection

223.2.1 Protection from Overload

Components or parts of components subject to clogging, blockage, binding or other overloads shall be protected from damage due to the overload.

223.2.2 Protection from Freezing

Components or parts of components which are wetted and subject to freezing shall be designed to ensure that components will be operable during winter climatic conditions anticipated at the works.

223.2.3 Protection from Up-Lift Due to Ground Water

In-ground tanks and basins shall be protected from up-lift due to ground water. If sufficient ballast is not provided in each tank or basin, other means for ground water relief shall be provided.

223.3 Slide Gates

Consideration shall be given to providing mechanical operators or other mechanical assistance for slide gates which, due to their size or infrequent use, may not be easily removable by manual means alone.

223.4 Aeration Equipment

223.4.1 Component Maintenance

Mechanical aerators or air diffusers shall be easily removable from the aeration tank to permit maintenance and repair without interrupting operation of the aeration tank or inhibiting operation of the other aeration equipment.

223.4.2 Filtration of Air

If air is supplied to fine bubble diffusers, air filters shall be provided in numbers, arrangement and capacities to furnish at all times an air supply sufficiently free from dust to minimize clogging of the diffusers.

223.5 Anaerobic Sludge Digester

At least three access manholes shall be provided in the top of the tank. One opening shall be large enough to permit the use of mechanical equipment to remove grit and sand. A separate side wall manhole shall also be provided.

223.6 Incinerators

There shall be easy access to the interior of incinerators to permit maintenance and repair of internal mechanisms. Multi-hearth incinerators shall have a manhole on each hearth level.

230. ELECTRIC POWER SYSTEM

The following criteria shall apply only to those portions of the system supplying power to vital components.

231. Power Sources

Two separate and independent sources of electric power shall be provided to the works from either two separate utility substations or from a single substation and a works based generator. If available from the electric utility, at least one of the works' power sources shall be a preferred source (i.e., a utility source which is one of the last to lose power from the utility grid due to loss of power generating capacity). In geographical areas where it is projected that sometime during the design period of the works, the electric utility may reduce the rated line voltage (i.e., "brown out") during peak utility system load demands, a works based generator shall be provided as an alternate power source, where practicable. As a minimum, the capacity of the backup power source for each class of treatment works shall be:

Reliability Class	
Class I	Sufficient to operate all vital components, during peak wastewater flow conditions, together with critical lighting and ventilation.

Reliability Class II	Same as Reliability Class I, except that vital components used to support the secondary processes (i.e., mechanical aerators or aeration basin air compressors) need not be included as long as treatment equivalent to sedimentation and disinfection is provided.
Reliability Class III	Sufficient to operate the screening or comminution facilities, the main wastewater pumps, the primary sedimentation basins, and the disinfection facility during peak wastewater flow condition, together with critical lighting and ventilation.

Note: This requirement concerning rated capacity of electric power sources is not intended to prohibit other forms of emergency power, such as diesel driven main wastewater pumps.

232. Power Distribution External to the Works

The independent sources of power shall be distributed to the works' transformers in a way to minimize common mode failures from affecting both sources.

Example: The two sets of distribution lines should not be located in the same conduit or supported from the same utility pole. The two sets of overhead distribution lines, if used, should not cross nor be located in an area where a single plausible occurrence (e.g., fallen tree) could disrupt both lines. Devices should be used to protect the system from lightning.

233. Transformers

Each utility source of power to the works shall be transformed to usable voltage with a separate transformer. The transformers shall be protected from common mode failure by physical separation or other means.

234. Power Distribution Within the Works

234.1 Service to Motor Control Centers

The internal power distribution system shall be designed such that no single fault or loss of a power source will result in disruption (i.e., extended, not momentary) of electric service to more than one motor control center associated with the Reliability Class I, II, or III vital components requiring backup power per Paragraph 231, above.

234.2 Division of Loads at Motor Control Centers

Vital components of the same type and serving the same function shall be divided as equally as possible between at least two motor control centers. Nonvital components shall be divided in a similar manner, where practicable.

234.3 Power Transfer

Where power feeder or branch circuits can be transferred from one power source to another, a mechanical or electrical safety device shall be provided to assure that the two power sources cannot be cross-connected, if unsynchronized. Automatic transfer shall be provided in those cases when the time delay required to manually transfer power could result in a failure to meet effluent limitations, a failure to process peak influent flow, or

cause damage to equipment. Where automatic pump control is used, the control panel power source and pump power source shall be similarly transferred. The actuation of an automatic transfer switch shall be alarmed and annunciated.

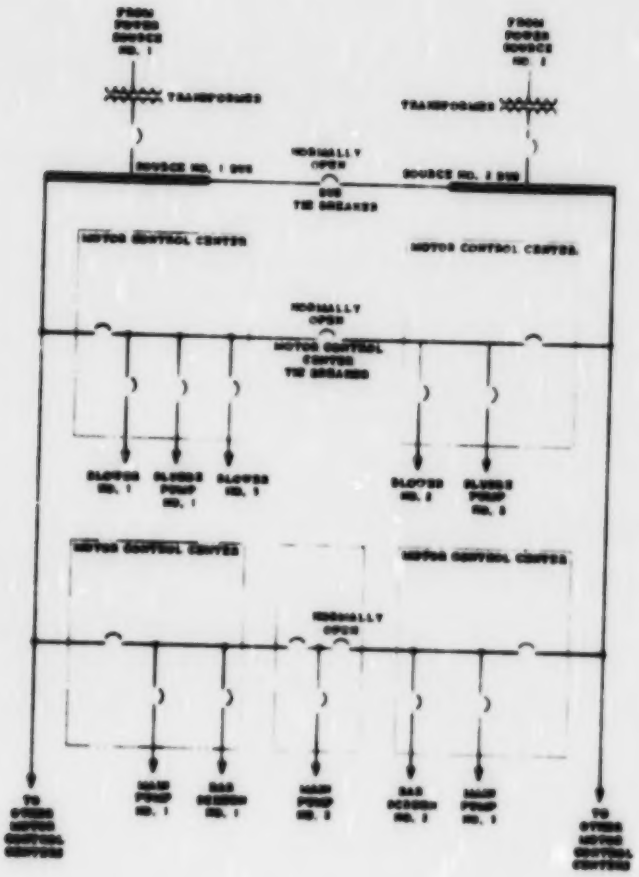
Example: An example for feeder distribution and bus transfer which meets these criteria is shown in Figure 1. The two power sources from utility substations are connected to the motor control centers through circuit breakers. A circuit breaker is provided to cross-connect the two motor control centers in the event one of the two normally energized power feeders fail. Additional backup capability has been achieved for the main pump by connecting one of the three pumps to the motor control center cross-connect. This assures that two out of three pumps will be available in the event of a panel fire or panel bus short circuit.

235. Breaker Settings or Fuse Ratings

Breaker settings or fuse ratings shall be coordinated to effect sequential tripping such that the breaker or fuse nearest the fault will clear the fault prior to activation of other breakers or fuses to the degree practicable.

236. Equipment Type and Location

Failures resulting from plausible causes, such as fire or flooding, shall be minimized by equipment design and location. The following requirements apply:



FEEDER DISTRIBUTION AND POWER TRANSFER

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FIGURE 1

236.1 Switchgear Location

Electric switchgear and motor control centers shall be protected from sprays or moisture from liquid processing equipment and from breaks in liquid handling piping. Where practicable, the electric equipment shall be located in a separate room from the liquid processing equipment. Liquid handling piping shall not be run through this room. The electric switchgear and motor control centers shall be located above ground and above the one hundred (100) year flood (or wave action) elevation.

236.2 Conductor Insulation

Wires in underground conduits or in conduits that can be flooded shall have moisture resistant insulation as identified in the National Electric Code.

236.3 Motor Protection from Moisture

All outdoor motors shall be adequately protected from the weather. Water-proof, totally enclosed or weather-protected, open motor enclosures shall be used for exposed outdoor motors. Motors located indoors and near liquid handling piping or equipment shall be, at least, splash-proof design. Consideration shall be given to providing heaters in motors located outdoors or in areas where condensation may occur.

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The following criteria shall apply to motors (and their local controls) associated with vital components. All outdoor motors, all large indoor motors (i.e., those not readily available as stock items from motor suppliers), and, where practicable, all other indoor motors shall be located at an elevation to preclude flooding from the one hundred (100) year flood (or wave action) or from clogged floor drains. Indoor motors located at or below the one hundred year flood (or wave action) elevation shall be housed in a room or building which is protected from flooding during the one hundred year flood (or wave action). The building protection shall include measures such as no openings (e.g., doors, windows, hatches) to the outside below the flood elevation and a drain sump pumped to an elevation above the flood elevation.

236.4 Explosion Proof Equipment

Explosion proof motors, conduit systems, switches and other electrical equipment shall be used in areas where flammable liquid, gas or dust is likely to be present.

236.5 Routing of Cabling

To avoid a common mode failure, conductors to components which perform the same function in parallel shall not be routed in the same conduit or cable tray. Conduits housing

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such cables shall not be routed in the same underground conduit bank unless the conduits are protected from common mode failures (such as by encasing the conduit bank in a protective layer of concrete).

236.6 Motor Protection

Three phase motors and their starters shall be protected from electric overload and short circuits on all three phases.

Large motors shall have a low voltage protection device which on the reduction or failure of voltage will cause and maintain the interruption of power to that motor.

Consideration shall be given to the installation of temperature detectors in the stator and bearings of large motors in order to give an indication of overheating problems.

237. Provisions for Equipment Testing

Provisions shall be included in the design of equipment requiring periodic testing, to enable the tests to be accomplished while maintaining electric power to all vital components. This requires being able to conduct tests, such as actuating and resetting automatic transfer switches, and starting and loading emergency generating equipment.

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238. Maintainability

The electric distribution system and equipment shall be designed to permit inspection and maintenance of individual items without causing a controlled diversion or causing violation of the effluent limitations.

239. Emergency Power Generator Starting

The means for starting a works based emergency power generator shall be completely independent of the normal electric power source. Air starting systems shall have an accumulator tank(s) with a volume sufficient to furnish air for starting the generator engine a minimum of three (3) times without recharging. Batteries used for starting shall have a sufficient charge to permit starting the generator engine a minimum of three (3) times without recharging. The starting system shall be appropriately alarmed and instrumented to indicate loss of readiness (e.g., loss of charge on batteries, loss of pressure in air accumulators, etc.).

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240. INSTRUMENTATION AND CONTROL SYSTEMS

These criteria cover the requirements for the instrumentation and control systems:

241. Automatic Control

Automatic control systems whose failure could result in a controlled diversion or a violation of the effluent limitations shall be provided with a manual override. Those automatic controls shall have alarms and annunciators to indicate malfunctions which require use of the manual override. The means for detecting the malfunction shall be independent of the automatic control system, such that no single failure will result in disabling both the automatic controls and the alarm and annunciator.

242. Instrumentation

Instrumentation whose failure could result in a controlled diversion or a violation of the effluent limitations shall be provided with an installed backup sensor and readout. The backup equipment may be of a different type and located at a different point, provided that the same function is performed. No single failure shall result in disabling both sets of parallel instrumentation.

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243. Alarms and Annunciators

Alarms and annunciators shall be provided to monitor the condition of equipment whose failure could result in a controlled diversion or a violation of the effluent limitations. Alarms and annunciators shall also be provided to monitor conditions which could result in damage to vital equipment or hazards to personnel. The alarms shall sound in areas normally manned and also in areas near the equipment. Treatment works not continuously manned shall have the alarm signals transmitted to a point (e.g., fire station, police station, etc.) which is continuously manned. The combination of alarms and annunciators shall be such that each announced condition is uniquely identified. Test circuits shall be provided to enable the alarms and annunciators to be tested and verified to be in working order.

244. Alignment and Calibration of Equipment

Vital instrumentation and control equipment shall be designed to permit alignment and calibration without requiring a controlled diversion or a violation of the effluent limitations.

250. AUXILIARY SYSTEMS

The auxiliary systems include typical systems such as:

- Drain system, for
  - Components
  - Systems
  - Treatment works
- Compressed air system, for
  - Pneumatic controls
  - Pneumatic valve operators
  - Hydropneumatic water systems
  - Air lift pumps
- Service water systems, for
  - High pressure water
  - Gland seals
  - General service
- Fuel supply system, for
  - Digester heaters
  - Incinerators
  - Building heat

- Lubrication oil system, for
  - Pumps
  - Blowers
  - Motors
- Chemical supply and addition system, for
  - Disinfection
  - Sludge conditioning
  - Chemical treatment of wastewater

The reliability requirements of these systems are dependent on the function of each system in the wastewater treatment works. If a malfunction of the system can result in a controlled diversion or a violation of the effluent limitations, and the required function cannot be done by any other means, then the system shall have backup capability in the number of vital components (i.e., pumps, motors, mechanical stirrers) required to perform the system function. If the system performs functions which can be performed manually or by some other means, then backup components shall not be required.

> Example: A compressed air system supplying air to air lift pumps, which are pumping return activated sludge from the secondary sedimentation basin to the aeration tanks, is an example of an auxiliary system whose failure could degrade effluent quality. If no other means for supplying air or pumping sludge were available, then this system would be required to have backup vital components, such as compressors.

Example: If the compressed air system only supplied air to pneumatic controls which could not affect effluent quality, then the system would not require any backup components.

251. Backup Components

Auxiliary systems requiring backup components shall have a sufficient number of each type of component such that the design function of the system can be fulfilled with any one component out of commission. Systems having components of different capacities shall meet this criterion with the largest capacity component out of commission. It is permissible for the backup component to be uninstalled, provided that the installed component can be easily removed and replaced. However, at least two components shall be installed.

Example: A chemical addition system supplying chlorinated water to the contact chamber and having six chlorinators and one water supply pump which just meets capacity requirements, would be required by this criterion to have one additional chlorinator and one additional pump.

252. Requirements for System, Component and Treatment Works Drains and Overflows

All system, component and works drains and overflows shall discharge to an appropriate point in the main wastewater treatment process to ensure adequate treatment. Drains flowing to a two-compartment wetwell shall be designed to discharge to either compartment of the wetwell.

252.1 Works Drains

The works shall have sufficient drains to enable all spilled or leaked raw or partially treated wastewater, sludge, chemicals or any other objectionable substance to freely drain out of the area of concern. Special attention shall be given to specifying sufficient cleanouts in drain lines which are likely to clog (e.g., drain lines handling lime). All floors within buildings and structures shall be sloped to permit complete draining.

252.2 Sump Pumps

Sump pumps shall be of a non-clog type. Sump pumps are considered vital components and each sump shall be provided with two full capacity sump pumps.

252.3 Equipment Overflows

All equipment located within buildings and which can overflow shall be equipped with an adequately sized overflow pipe. The overflow shall be directed to a gravity drain.

252.4 Surface Water Drains

The works' grounds shall be graded and drains provided in order to prohibit surface water from draining into pump wells, tanks, basins, beds, or buildings. Drains

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which handle uncontaminated water only shall not be connected to the contaminated drain system.

252.5 Component Dewatering

All pump wells, tanks, basins and beds, with the exception of aeration tanks, shall be designed to enable complete dewatering in a reasonable length of time in order to minimize the component downtime for maintenance or repairs. Where practicable, these components shall have sloped bottoms to enable the units to be completely drained.

252.6 Drain Backflow

Drains shall be designed to prevent backflow from other sources which would cause flooding or violation of the effluent limitations. The drain system shall be designed to prevent the entrance of storm water during the one hundred year flood (or wave action) condition.

253. Continuity of Operation

The failure of a mechanical component in an auxiliary system shall not result in disrupting the operating continuity of the wastewater treatment system or sludge handling and disposal system to the extent that flooding, failure, malfunctioning or damage to components in those systems results.

Example: A seal water system with normal and backup water supplies must transfer automatically to the backup upon failure of the normal supply in order to protect the equipment which needs the seal water to prevent damage.

254. Emergency Fuel Storage

If a vital component requires fuel for operation, then the fuel supply system design shall include provisions for fuel storage or a standby fuel source. The capacity of stored gaseous or liquid fuel shall be determined by the Grant Applicant based on the plausible downtime of the normal fuel supply and the expected consumption rate. The emergency system shall be physically separate from the normal fuel supply up to its connection to the fuel distribution system within the works.

255. Disinfectant Addition System

The capacity of the disinfectant addition system shall be designed with due consideration of abnormal operating conditions, such as having a disinfectant contact basin out of service. It is permissible for the additional capacity required for abnormal conditions to be separate and independent from the normal disinfectant addition system.

EPA 430/9-74-011

TECHNICAL BULLETIN——

SUPPLEMENT TO FEDERAL GUIDELINES: DESIGN, OPERATION, AND MAINTENANCE OF WASTEWATER TREATMENT FACILITIES

WASTEWATER TREATMENT PONDS

MARCH 1974

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Water Program Operations
Washington, D.C. 20460

SUPPLEMENT TO FEDERAL GUIDELINES: DESIGN
OPERATION AND MAINTENANCE OF
WASTEWATER TREATMENT FACILITIES

U.S. ENVIRONMENTAL PROTECTION AGENCY

TECHNICAL BULLETIN

WASTEWATER TREATMENT PONDS

The Federal Water Pollution Control Act Amendments of 1972 establish an extensive program to upgrade the quality of our Nation's waters. For municipal wastewater treatment, the Act requires that the Environmental Protection Agency define the effluent quality that can be achieved by secondary treatment. Municipal permits and grants are then based on the secondary treatment definition. More stringent effluent requirements may be necessary in order to meet requirements such as water quality standards.

Publication of the definition of secondary treatment (40 CFR Part 133) has focused attention on the limitations of some processes which, in the past, were defined as "secondary treatment". In particular, there have been reports that many ponds (or lagoons), as they are presently designed and operated, may not meet the secondary treatment requirements. In those cases, the ponds will have to be either upgraded or replaced. It is important to note, however, that EPA has not forbidden the use of pond systems which achieve the required performance limits.

EPA recognizes the advantages of simplicity and low cost which ponds offer to smaller communities. This Technical Bulletin concentrates on upgrading methods which retain these features. In some cases, however, it may be more cost-effective to use another treatment method. Guidance on design and operation of pond systems which have met the secondary treatment performance requirements is presented. Most States have comprehensive design requirements based on local experiences and there are many other valuable design references; therefore, the Technical Bulletin is not intended to be a comprehensive design manual. References are provided for additional engineering information.

The Bulletin will be revised from time to time as additional research and evaluation becomes available. All users are encouraged to submit suggested revisions and information to the Director, Municipal Construction Division (AW-447), Office of Water Program Operations, Environmental Protection Agency, Washington, D. C. 20460.

Roger Strelow
Acting Assistant Administrator
for Air and Water Programs

SUPPLEMENT TO FEDERAL GUIDELINES: DESIGN OPERATION AND MAINTENANCE OF WASTEWATER TREATMENT FACILITIES

U.S. ENVIRONMENTAL PROTECTION AGENCY

TECHNICAL BULLETIN

WASTEWATER TREATMENT PONDS

1. PURPOSE:

This Bulletin presents technical information which will be used by Environmental Protection Agency Regional Administrators to review grant applications involving wastewater treatment ponds.

2. RELATED PUBLICATIONS:

This Bulletin supplements the Federal Guidelines: Design, Operation, and Maintenance of Municipal Wastewater Treatment Plants. Additional process design information is contained in EPA Technology Transfer publications entitled "Upgrading Lagoons" (1) and "Upgrading Existing Lagoons" (2), and therefore is not repeated in this Bulletin.

3. TERMINOLOGY:

A wastewater treatment pond is a large, relatively shallow basin designed for long term detention of wastewater which may or may not have received prior treatment. While in the basin the wastewater is biologically treated to reduce biochemical oxygen demand and suspended solids. There are many different types of lagoons and ponds; however, the following terminology is used for the wastewater treatment ponds discussed in this Bulletin

a. Photosynthetic pond - A pond which is designed to rely on photosynthetic oxygenation (i.e. oxygen from algae) for any portion of the oxygen needed for waste treatment. This includes oxidation ponds and facultative lagoons. These ponds may have supplemental aeration by mechanical means. With regard to hydraulic flow, photosynthetic ponds are either of the (1) flow-through type, in which the pond discharges relatively continuously throughout the year; or, (2) controlled-discharge type, in which the pond is designed to retain the

wastewater without discharge from six months to one year, followed by controlled discharge over a short time interval (typically about one to three weeks).

b. Aerated pond - A pond which is not designed to rely on any photosynthetic oxygenation to provide oxygen needed for biological waste treatment. Air is supplied by mechanical means. Aerated ponds are either (1) complete mix, in which sufficient energy is imparted to the wastewater to prevent deposition of solids in the pond, or, (2) partial-mix, in which only sufficient energy is used to dissolve and mix oxygen in the wastewater. Solid materials settle in the partial-mix pond and are decomposed anaerobically. There will be algae in the partial-mix aerated pond, but usually far fewer than in a photosynthetic pond.

c. Complete retention pond - This type of pond relies on evaporation and percolation exceeding inflow so that there is no discharge of pollutants. This method is acceptable at some locations with suitable climatic conditions and where consistent with water rights. Special attention must be given to protecting ground water and preventing odors.

4. USE OF THE CRITERIA:

Projects involving waste treatment ponds proposed for Federal financial assistance from EPA will be based on the criteria contained in this Technical Bulletin. Approval can be given to different designs if reasonable assurance can be given to the EPA Regional Administrator that satisfactory performance will be achieved.

There is a wide variation in the types of ponds and the wastewaters treated by such ponds, as well as the performance of ponds in different geographical locations. The criteria in this Technical Bulletin are intended to provide a conservative baseline of engineering practice, and must be applied with engineering judgement on a case-by-case basis. The EPA Regional Administrator will review each project to identify and resolve additional factors important to the design of a specific project. Responsibility for satisfactory performance, however, remains with the grant applicant. Additional construction may be necessary if completed facilities are not in compliance with effluent limitations.

It is the policy of EPA to encourage the use of new technology. EPA Regional Administrators will continue to give full consideration to new methods which may not be included in this bulletin.

5. PERFORMANCE REQUIREMENTS:

The Federal Water Pollution Control Act Amendments of 1972 (the Act) established the minimum performance requirements for publicly owned treatment works. In accordance with Section 301(b)(1)(B) of the Act, publicly owned treatment works must meet at least effluent limitations based on secondary treatment as defined by the EPA Administrator. EPA has published information on secondary treatment in 40 CFR Part 133(3). The criteria in this Technical Bulletin are intended to result in wastewater treatment ponds which can achieve effluent limitations based on the secondary treatment information. More stringent performance requirements may be necessary to meet other requirements such as water quality standards. In such cases the criteria contained in this Bulletin will have to be adjusted accordingly.

6. BACKGROUND:

There are more than 4,000 publicly owned ponds in the United States. Generally these ponds are located in small communities and are designed for flows less than 1 MGD. Ponds have been used because operation is simple, operating costs are low, and land is available. The great majority of the existing ponds are the photosynthetic flow-through type.

There is a wide variation in the design of these systems. Organic loadings per acre (both in design practice and actual operation) have increased with time. Comprehensive performance data on these ponds is generally lacking, particularly for the flow-through, photosynthetic type. At the typical facility there has been no test program or, at the most, infrequent grab sampling.

Regarding the ability of flow-through photosynthetic ponds to meet secondary treatment requirements, the limited data indicates that:

a. The BOD level is borderline, but probably could be achieved by conservative design. The BOD level would not be met if the pond continued to discharge while there is prolonged ice cover over the pond.

b. The suspended solids level is generally not achieved because of the algae in the effluent.

c. Fecal coliform levels are not achieved without a positive means of disinfection such as chlorination.

d. The pH of the effluent varies markedly depending on alkalinity/CO_2 relationships. The variation is, however, rarely sufficient to require pH adjustment (4).

Despite these generalizations, it is important to note that there are reports of flow-through ponds which do achieve secondary treatment performance. Satisfactory performance appears to be attributable to either favorable year-round climate as in the Southwestern United States or conservative design (up to 6 cells).

Controlled discharge ponds have been used in the North, where, if properly operated, they can meet the BOD level. They are borderline on the suspended solids, but probably could meet the level with careful operation. Such ponds may not require positive disinfection to meet the fecal coliform levels.

Aerated ponds with suspended solids separation and disinfection, if properly designed, can meet the BOD requirements, but partial-mix units are borderline on suspended solids. Granular media filtration may be needed to assure satisfactory year round performance.

7. FLOW-THROUGH PHOTOSYNTHETIC PONDS:

Regional Administrators will make grants for this type of pond without supplemental treatment only when there is reasonable assurance that the pond will perform satisfactorily.

The determination could be based on satisfactory performance of a similar pond in a comparable environment or on pilot plant performance with conservative scale-up factors. Data from at least one year's operation should be sufficient to show satisfactory performance. Data from shorter periods may not adequately reflect seasonal variations in performance.

When Regional Administrators make such grants, the Facilities Plan should include a discussion of actions to be taken if upgrading is determined to be necessary after the plant is placed in operation.

8. CONTROLLED DISCHARGE PONDS:

The controlled discharge pond is designed to receive and retain wastewaters for six months to one year. At the end of this long-term detention, the contents of the pond are discharged during an interval of one to three weeks. Since experience with this type of pond is presently limited to Northern States with definite climatic seasons, it may be necessary to run pilot studies in States with only slight seasonal climate changes.

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Ponds of this type have operated satisfactorily in Michigan using the following design criteria:

Overall organic loading: 20-25 pounds BOD_5/acre.

Liquid depth: not more than 6 feet for the first cell. Not more than 8 feet for subsequent cells.

Hydraulic detention: At least 6 months above the 2 foot liquid level (including precipitation), but not less than the period of ice cover.

Number of cells: At least 3 for reliability, with piping flexibility for parallel or series operation.

The design of the controlled discharge pond must include an anlysis showing that receiving stream water quality standards will be maintained during discharge intervals, and that the receiving watercourses can accomodate the discharge rate from the pond.

Selecting the optimum day and hour for release of the pond contents is critical to the success of this method. The operation and maintenance manual must include instructions on how to correlate pond discharge with effluent and stream quality. The pond contents and stream must be carefully examined, before and during the release of the pond contents. A Statewide program of controlled releases (keyed to tests of BOD_5, dissolve oxygen, and suspended solids, fecal coliform as well as sunlight, weather, and streamflow) has been effective.

In the Michigan program, discharge of effluents follows a consistent pattern for all ponds. The following steps are usually taken:

a. Isolate the cell to be discharged, usually the final one in the series, by valving-off the inlet line from the preceding cell.

b. Arrange to analyze samples for BOD, suspended solids, volatile suspended solids. pH, and other parameters which may be required for a particular location.

c. Plan work so as to spend full time on control of the discharge throughout the period.

d. Sample contents of the cell to be discharged for dissolve oxygen, noting turbidity, color and any unusual conditions.

e. Note conditions in the stream to receive the effluent.

f. Notify the State regulatory agency of results of these observations and plans for discharge and obtain approval.

g. If discharge is approved, commence discharge and continue so long as weather is favorable, dissolved oxygen is near or above saturation values and turbidity is not excessive following the prearranged discharge flow pattern among the cells. Usually this consists of drawing down the last two cells in the series (if there are three or more) to about 18-24 inches after isolation; interrupting the discharge for a week or more to divert raw waste to a cell which has been drawn down and resting the initial cell before its discharge. When this first cell is drawn down to about 24 inches depth, the usual series flow pattern, without discharge, is resumed. During discharge to the receiving waters samples are taken at least three times each day near the discharge pipe for immediate dissolved oxygen analysis. Additional testing may be required for suspended solids.

9. COMPLETE-MIX AERATED PONDS:

This type of pond can be sesigned to meet secondary treatment requirements on a similar basis as an activated sludge process, with or without solids return (5). The criteria in this Bulletin are not applicable to a complete-mix aerated pond.

10. PARTIAL-MIX AERATED PONDS:

The process design can be based on reactor mixing, flow regime, biological kinetics, and oxygen transfer rates. As defined in this Bulletin, the partial-mix aerated pond will not include any allowance for photosynthetic oxygenation.

At least three cells will be provided with aeration in each cell (except designated clarifier cells) so that dissolved oxygen is present throughout the surface layer. It is usually beneficial to recirculate effluent high in dissolved oxygen to the pond influent. The aeration should be tapered so that the final portion of the final cell is a quiescent zone and can function as a clarifier, or a separate clarifier can be provided.

The pond volume will be sized on the basis of low temperature reaction rates, with allowance for sedimentation. Aeration equipment will be sized for the warm weather oxygen uptake rate and for mixing in the pond. Oxygen transfer will include consideration of pond depth, which, for a new pond, typically is 8 feet or greater.

In cold climates, surface aerators will be designed to ensure satisfactory operation during freezing weather, including splash guards, heated housings, and design to keep floating ice away from the aerator.

See EPA Technical Bulletin 430-99-74-001 (6) for aeration unit reliability criteria.

Partial-mix ponds may have high suspended solids on an infrequent basis due to algae. To ensure satisfactory performance, capability should be provided for algae removal. Because of the relatively low amounts of algae a granular dual media filter, along with capability for feeding a polymer filter aid, should be satisfactory.

11. GENERAL REQUIREMENTS:

The following criteria apply to the waste treatment ponds covered in this Bulletin:

a. Positive Disinfection

In the past, pond designs have relied on natural die-off of pathogens. Performance data shows that this method is not sufficiently reliable for a flow-through photosynthetic pond to achieve secondary treatment fecal coliform levels except with recommended loadings and very well managed controlled discharge systems. A positive means of disinfection must be provided except where data from a similar pond in a comparable environment shows satisfactory performance. In that case the grant applicant must agree to install positive disinfection if performance is not achieved following construction.

Chlorination can achieve the required fecal coliform kills; however, if algae are not removed, excessive chlorination can result in algae die-off and increased BOD due to algae cell decay. Echelberger, et al. (7) studied the clorination of algae laden waters and concluded that apparent algae cell lysing following chlorination to a desirable residual level significantly increases the soluble organic concentration in the water. They also concluded that if chlorine is used as the disinfectant, serious consideration should be given to effective algae removal prior to disinfection. Hom (8) presents a laboratory method to optimize the the chlorine residual and reaction time when chlorinating algae laden waters. These considerations would be important where the effluent BOD is close to the permitted value and BOD increase due to algae die-off would result in a permit violation.

The chlorine should be applied to the pond effluent at a concentration and contact time sufficient to achieve effluent limitations. The optimum chlorine residual will be determined when the system is operational. A contact time of 20 minutes at peak hourly flow is recommended.

b. Prevention of Short Circuiting ...

Multi-cell ponds, operated in series, perform substantially better than single-cell or two-cell ponds. Additional cells reduce short circuiting of untreated wastewaters through the pond. No less than three cells will be provided with the initial cell sized to avoid anaerobic conditions (see the information beginning on Page 54 of Reference 4).

The Missouri Basin Engineering Health Council (4), makes the following recommendations for photosynthetic ponds (there are, however, no performance reports on ponds using this system):

> "The first pond should be designed with a 4 ft. normal depth to give maximum surface area for photosynthesis. The inlet should be designed to give a circular, deeper, sludge storage zone below the bottom of the normal pond. This will allow maximum wind mixing to occur without stirring up the settled solids. The sludge storage section should have a maximum diameter of 100-200 ft. with a center depth of 4 to 6 ft. The raw waste inlet pipe should be located in the center of the sludge storage section so that the raw wastes enter the pond in a radial fashion to distribute the load around the inlet pipe in the same fashion that inlet structures are designed for circular clarifiers except that all of the baffles in the oxidation pond should be submerged. This will permit the heavy solids to remain around the inlet and undergo anaerobic decomposition with a minimum oxygen demand. The outlet from the first cell should have the capacity to change the depth from 3 to 5 ft in 6 inch increments to give operational flexibility as well as a drain for the entire pond. The outlet structure should be designed to minimize fluid velocities at a single point. In small plants a large pipe outlet with adjustable sections is adequate. In large plants an adjustable weir will be required. There should be three sets of baffles concentrically around the effluent structure. The first baffle should be designed to extend around the outlet structure 3-5 ft. with the baffle extending at least 6 inches to onefoot above the highest water level and down to within one foot of the bottom of the pond. Thus, the effluent will be drawn from the bottom of the pond. The second concentric baffle rises from the bottom of the pond to within 6 inches of the surface at the lowest possible level. The third concentric baffle is the same as the first,

rising above the maximum surface and dropping to within one foot of the bottom of the pond. These baffles are designed to give an up and over type baffle with a bottom drawoff to minimize removal of algae from the active zone and to allow the algae to congregate at the surface within a quiescent ring that is not affected by wind action. In effect, a stilling basin is created which encourages the algae to accumulate at the light surface and minimizes mixing to interfere with sedimentation."

c. Protection of Ground Water From Pond Seepage

Ponds containing wastewater, if allowed to drain freely to aquifers or bedrock crevices, could cause significant ground water pollution. To prevent ground water degradation, ponds must be designed to minimize seepage losses and will either: (1) have sufficient distance through low permeability soil to ground water to ensure protection of the aquifers, or (2) have all submerged surfaces of the pond sealed so as to ensure protection of the ground water.

In borderlines cases the Regional Administrator may require percolation tests or observation wells and a monitoring plan.

12. SUPPLEMENTAL TREATMENT FOR FLOW-THROUGH PHOTOSYNTHETIC PONDS:

Methods of providing supplemental treatment for flow-through ponds are being researched. Methods included in this Bulletin are those which are reported to have been successful at pilot or plant scale. EPA is aware that other concepts have been proposed and some of these are being tested. The Bulletin will be revised from time to time as information on other successful methods becomes available.

Most techniques for upgrading flow-through ponds involve algae removal. Two comprehensive discussions of algae removal techniques have been prepared (9, 10). In this Bulletin, as in the EPA research program, priority has been given to those methods which retain the operational simplicity features of flow-through ponds.

Supplemental treatment must be designed for the conditions at a specific site. Pilot testing may be required, particularly if there are significant quantities of industrial waste and depending on the size of the facility.

13. SUPPLEMENTAL TREATMENT METHODS:

a. Conversion to Controlled Discharge.

An existing flow-through pond can be converted to a controlled discharge pond if the previously outlined conditions are met. Usually additional land area will be required to obtain the volume required for controlled detention.

b. Intermittant Sand Filtration.

Intermittant sand filters were used in the past for flows up to about 0.25 MGD, but the high cost of labor to clean the filter sand reduced this useage. Application of pond effluents to intermittant sand filters has been successful on a pilot scale. Information to date is limited (11) and designs should be conservative. The upper limit of hydraulic loading for pond effluents should be 0.4 MGD/acre until more information is obtained. Design information is contained in Chapter 12 of Reference 12. When freezing could occur on the filter surface, the pond should be sized to retain the wastewater during freezing weather conditions or there should be an alternative operational plan to ensure effluent limitations are met

In their laboratory and prototype field studies of intermittant sand filtration of pond effluents, Marshall and Middlebrooks (11) found:

(1) Viable algae cells passed the entire depth of all the filter sands studied.

(2) Hydraulic loading rate did not affect the algae or suspended solids removal efficiency at the 0.1,0.2, or 0.3 MGD/acre employed in the laboratory study. The effects of hydraulic loading rate on suspended solids removals in the field studies were inconclusive because of the large quantities of fines washed from the filters, but volatile suspended solids removal did indicate a reduction in removal efficiency as the hydraulic loading rate was increased.

(3) Smaller effective size sands produced better algae or suspended and volatile suspended solids removals. Sand size was not a significant factor in algae removal at applied algae concentrations of 15 and

30 mg/l, but was significant when the concentration was increased to 45-50 mg/l in both the laboratory and field filters. At the 0.5 MGD/acre hydraulic loading rate, monthly mean volatile suspended solids were essentially equal for the 0.17 and 0.72 mm effective size sands. Efficiences fluctuated considerably from one sand to the other during the study period. But in general the 0.17mm effective size sand produced a better quality effluent.

c. Land Treatment of Pond Effluents.

This method of using pond effluents as a water resource has particular application in water short areas where land is readily available. Application rates vary widely depending on method of application, crops involved, and climate. Seasonal application is usually related to crop growth and additional pond capacity may be required for storage during the dormant season. Comprehensive information on land treatment systems is available (13, 14), including many examples where the wastewater has been stored in a pond before land application. Additional design information will be contained in EPA Evaluation Procedures for Land Application Systems (now in preparation). Technical assistance on complex projects is available through EPA Regional Offices, the Office of Water Program Operations, and the Robert S. Kerr Water Research Center, Ada, Oklahoma.

d. Addition of Supplemental Aeration.

A flow-through photosynthetic pond can be upgraded by the installation of diffused or mechanical aerators. For optimum efficiency in oxygen transfer and mixing the pond should be deepened about 5 feet (to about 10 feet liquid depth). Also, additional electrical power will be required to operate the aeration system.

e. Chemical Coagulation.

Coagulation followed by sedimentation, and possibly filtration has been used extensively for the removal of suspended and colloidal material from water. In the case of the chemical treatment of wastewater treatment pond effluents the data are not comprehensive (10). Lime, alum, and ferric salts are the most commonly used coagulating agents. Because of the many variables a pilot testing program will usually be necessary to ensure proper operation of the system. There must be a satisfactory method of ultimate disposition of resultant sludges.

Unless designed for constant flow, close control of the process is required to obtain satisfactory performance. Depending on the alkalinity of the wastewater, the operating cost of the chemicals for this method can be relatively high. Additional information is contained in References 1, 2, 9, and 10.

14. ADDITIONAL FIELD EXPERIENCE:

The information contained in this Bulletin will be modified as additional field experience becomes available. Those having such information are encouraged to submit it to the Director, Municipal Construction Division (AW-447), Office of Water Program Operations, U.S. Environmental Protection Agency, Washington, D.C. 20460.

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Note: Information on EPA publications can be obtained from the EPA Regional Administrator.

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EPA-430/9-75-001

TECHNICAL BULLETIN

EVALUATION OF LAND APPLICATION SYSTEMS

MARCH 1975

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Water Program Operations
Washington, D.C. 20460

NOTE

Methods for estimating costs and evaluating the cost effectiveness of land-application systems are being developed in a separate report that will be available in early 1975.

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TECHNICAL BULLETIN

EVALUATION OF LAND APPLICATION SYSTEMS

EVALUATION CHECKLIST AND SUPPORTING COMMENTARY

MARCH 1975

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Water Program Operations
Washington, D. C. 20460

ABSTRACT

Procedures are set forth to assist EPA personnel in evaluating treatment systems that employ land application of municipal wastewater. In addition, information and assistance is provided which may be of value to other federal, state, and local agencies, the wastewater industry, consultants and designers. However, it is not intended that the bulletin be used as a comprehensive design manual.

The bulletin consists of an Evaluation Checklist and parallel background information and is divided into three major parts dealing with: (1) facilities plans, (2) design plans and specifications, and (3) operation and maintenance manuals.

The focus of Part I is on the thorough evaluation of land-application alternatives and the preparation of a detailed facilities plan. A number of interrelated considerations are addressed, including: evaluation of potential sites, evaluation of land-application alternatives, design considerations, and environmental factors.

Procedures for evaluating design plans and specifications are described in Part II, with emphasis being placed on agreement with the facilities plans and the requirement for basing the review of the design on conditions present at the particular site. Sample design criteria listings are included in the appendix.

In Part III, extensive reference is made to the EPA publication Considerations for Preparation of Operation and Maintenance Manuals. Special considerations for land-application systems are presented with respect to operating procedures, monitoring requirements, and impact control.

This report is submitted in partial fulfillment of Contract 68-01-0966 by Metcalf & Eddy, Inc., Western Regional Office, under the sponsorship of the Environmental Protection Agency. Work was completed as of September 1974.

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FOREWORD

This technical bulletin is published pursuant to certain sections of the Federal Water Pollution Control Act Amendments of 1972, Public Law 92-500, enacted on October 18, 1972. The 1972 Amendments require the publication of information that will encourage waste treatment management which results in facilities for (1) the recycling of potential sewage pollutants through the production of agricultural, silvicultural, or aquacultural products; (2) the reclamation of wastewater; and (3) the elimination of the discharge of pollutants. The Amendments also require the consideration of alternative waste management techniques that provide the best practicable waste treatment technology over the life of the treatment works.

The three principal waste management alternatives are (1) conventional treatment and discharge, (2) conventional treatment and direct reuse, and (3) land treatment with discharges to surface and/or groundwaters. Treatment by land application of wastewater is a viable waste management alternative and is practiced successfully and extensively both in the United States and throughout the world. This publication is concerned solely with land application for wastewater treatment and is intended to encourage its use where it is cost-effective.

This bulletin is not a comprehensive design manual; primarily, it provides information and program guidance to EPA Regional Offices for analyzing and evaluating municipal applications for federal grants for the construction of publicly owned treatment works using land-application methods. It also provides information and assistance to other federal agencies, to interstate organizations, to state water pollution control agencies, to the wastewater industry, and to consultants and designers of land-application systems.

Admittedly, there is insufficient knowledge about certain aspects of the treatment of sewage effluents by conventional secondary treatment as well as by land treatment to evaluate adequately all of the ramifications of the potential health hazards by any method of treating wastewater. EPA is proceeding with all deliberate speed, with its own resources and jointly with other institutions and agencies, to research these areas of insufficient knowledge. However, the successful and extensive use of the land treatment technique over a long period of time throughout the world justifies serious consideration of this method of treatment, even though, for example, it is not possible at this time to specify acceptable levels of contaminants in the soil from land application of wastewater. It must be demonstrated, however, that land treatment is the most cost-effective alternative, is consistent with the environmental assessment, and in other respects satisfies applicable tests.

As new aspects of land-application technology are developed through experience, additional information will become available, and this publication will be revised. All users are encouraged to submit suggested revisions and pertinent information to the Director, Municipal Construction Division, Office of Water Program Operations, U.S. Environmental Protection Agency, Washington, D.C. 20460.

James L. Agee
Assistant Administrator for
Water and Hazardous Materials

STATUTORY AND SUB-STATUTORY BASIS

The Federal Water Pollution Control Act Amendments of 1972 (Public Law 92-500), the legislative history of the Act, and the regulations which have been issued in accordance with the provisions of the Act, provide the statutory basis for consideration and funding of land-application systems in the treatment of municipal wastewater.

LEGISLATION

The rationale and goals within which land-application systems are to be considered are contained in the following sections of the Act:

Section 208 - Areawide Waste Treatment Management
Section 201 - Facilities Planning
Section 304 - Best Practicable Treatment Technology (BPT)
Section 212 - Cost Effectiveness Analysis

Concerning land application of municipal wastewater, the portions of these sections that are most important are reproduced here:

Section 208

"SEC. 208. (a) For the purpose of encouraging and facilitating the development and implementation of areawide waste treatment management plans—

"(1) The Administrator, ... after consultation with appropriate Federal, State, and local authorities, shall by regulation publish guidelines for the identification of those areas which, as a result of urban-industrial concentrations or other factors, have substantial water quality control problems.

"(b)(1) Not later than one year after the date of designation of any organization under subsection (a) of this section such organization shall have in operation a continuing areawide waste treatment management planning process consistent with section 201 of this Act. Plans prepared in accordance with this process shall contain alternatives for waste treatment management, and be applicable to all wastes generated within the area involved. The initial plan prepared in accordance with such process shall be certified by the Governor and submitted to the Administrator not later than two years after the planning process is in operation.

"(2) Any plan prepared under such process shall include, but not be limited to—

"(A) the identification of treatment works necessary to meet the anticipated municipal and industrial waste treatment needs of the area over a twenty-year period, annually updated (including an analysis of alternative waste treatment systems), including any requirements for the acquisition of land for treatment purposes; the necessary waste water collection and urban storm water runoff systems; and a program to provide the necessary financial arrangements for the development of such treatment works;

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"(B) the establishment of construction priorities for such treatment works and time schedules for the initiation and completion of all treatment works;

"(C) the establishment of a regulatory program to—

"(i) implement the waste treatment management requirements of section 201(c),

"(ii) regulate the location, modification, and construction of any facilities within such area which may result in any discharge in such area, and

"(iii) assure that any industrial or commercial wastes discharged into any treatment works in such area meet applicable pretreatment requirements;

"(D) the identification of those agencies necessary to construct, operate, and maintain all facilities required by the plan and otherwise to carry out the plan;

"(E) the identification of the measures necessary to carry out the plan (including financing), the period of time necessary to carry out the plan, the costs of carrying out the plan within such time, and the economic, social, and environmental impact of carrying out the plan within such time;

"(F) a process to (i) identify, if appropriate, agriculturally and silviculturally related nonpoint sources of pollution, including runoff from manure disposal areas, and from land used for livestock and crop production, and (ii) set forth procedures and methods (including land use requirements) to control to the extent feasible such sources;

"(K) a process to control the disposal of pollutants on land or in subsurface excavations within such area to protect ground and surface water quality.

Section 201

"SEC. 201. (a) It is the purpose of this title to require and to assist the development and implementation of waste treatment management plans and practices which will achieve the goals of this Act.

"(b) Waste treatment management plans and practices shall provide for the application of the best practicable waste treatment technology before any discharge into receiving waters, including reclaiming and recycling of water, and confined disposal of pollutants so they will not migrate to cause water or other environmental pollution and shall provide for consideration of advanced waste treatment techniques.

"(c) To the extent practicable, waste treatment management shall be on an areawide basis and provide control or treatment of all point and nonpoint sources of pollution, including in place or accumulated pollution sources.

"(d) The Administrator shall encourage waste treatment management which results in the construction of revenue producing facilities providing for—

"(1) the recycling of potential sewage pollutants through the production of agriculture, silviculture, or aquaculture products, or any combination thereof;

"(2) the confined and contained disposal of pollutants not recycled;

"(3) the reclamation of wastewater; and

"(4) the ultimate disposal of sludge in a manner that will not result in environmental hazards.

"(e) The Administrator shall encourage waste treatment management which results in integrating facilities for sewage treatment and recycling with facilities to treat, dispose of, or utilize other industrial and municipal wastes, including but not limited to solid waste and waste heat and thermal discharges. Such integrated facilities shall be

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designed and operated to produce revenues in excess of capital and operation and maintenance costs and such revenues shall be used by the designated regional management agency to aid in financing other environmental improvement programs.

"(f) The Administrator shall encourage waste treatment management which combines 'open space' and recreational considerations with such management.

"(g)(1) The Administrator is authorized to make grants to any State, municipality, or intermunicipal or interstate agency for the construction of publicly owned treatment works.

"(2) The Administrator shall not make grants from funds authorized for any fiscal year beginning after June 30, 1974, to any State, municipality, or intermunicipal or interstate agency for the erection, building, acquisition, alteration, remodeling, improvement, or extension of treatment works unless the grant applicant has satisfactorily demonstrated to the Administrator that—

"(A) alternative waste management techniques have been studied and evaluated and the works proposed for grant assistance will provide for the application of the best practicable waste treatment technology over the life of the works consistent with the purposes of this title; and

"(B) as appropriate, the works proposed for grant assistance will take into account and allow to the extent practicable the application of technology at a later date which will provide for the reclaiming or recycling of water or otherwise eliminate the discharge of pollutants.

Section 304

"(d)(2) The Administrator, after consultation with appropriate Federal and State agencies and other interested persons, shall publish within nine months after the date of enactment of this title (and from time to time thereafter) information on alternative waste treatment management techniques and systems available to implement section 201 of this Act.

Section 212

"SEC. 212. As used in this title—

"(1) The term 'construction' means any one or more of the following: preliminary planning to determine the feasibility of treatment works, engineering, architectural, legal, fiscal, or economic investigations or studies, surveys, designs, plans, working drawings, specifications, procedures, or other necessary actions, erection, building, acquisition, alteration, remodeling, improvement, or extension of treatment works, or the inspection or supervision of any of the foregoing items.

" 2)(A) The term 'treatment works' means any devices and systems used in the storage, treatment, recycling, and reclamation of municipal sewage or industrial wastes of a liquid nature to implement section 201 of this Act, or necessary to recycle or reuse water at the most economical cost over the estimated life of the works, including intercepting sewers, outfall sewers, sewage collection systems, pumping, power, and other equipment, and their appurtenances; extensions, improvements, remodeling, additions, and alterations thereof; elements essential to provide a reliable recycled supply such as standby treatment units and clear well facilities; and any works, including site acquisition of the land that will be an integral part of the treatment process or is used for ultimate disposal of residues resulting from such treatment.

"(B) In addition to the definition contained in subparagraph (A) of this paragraph, 'treatment works' means any other method or system for preventing, abating, reducing, storing, treating, separating, or disposing of municipal waste, including storm water runoff, or industrial waste, including waste in combined storm water and sanitary sewer systems. Any application for construction grants which

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includes wholly or in part such methods or systems shall, in accordance with guidelines published by the Administrator pursuant to subparagraph (C) of this paragraph, contain adequate data and analysis demonstrating such proposal to be, over the life of such works, the most cost efficient alternative to comply with sections 301 or 302 of this Act, or the requirements of section 201 of this Act.

REGULATIONS

In addition to the legislation itself, regulations have been issued that pertain to land application. The following regulations represent a portion of the EPA program to implement requirements of Title II of the Act.

Areawide Waste Treatment Management (Section 208)

The regulatory basis for Section 208 areawide waste treatment management planning pertaining to land-application systems is contained in 40 CFR 35, subpart F, published in the Federal Register May 13, 1974. The planning for areawide waste treatment management consists of two interrelated considerations: analysis and implementation. Analysis serves to identify important factors. Implementation involves practical aspects for realizing alternatives that can improve water quality. Under the Section 208 Interim Grant Regulation, implementation alternatives must consider all policy variables that can be adjusted to produce improvement of water quality. As one policy variable, land-application systems can play a significant role in development of areawide planning management alternatives.

Disposition of residual wastes and control of disposal of pollutants must be considered in formulation of areawide waste treatment management plans. Again, the consideration of land-application systems is a means for achieving this.

Grants for Construction of Treatment Works (Section 201)

The Title II regulations set forth, in general, the procedures and conditions for award of grant assistance. Section 917 of these regulations specifies the facilities planning requirements, and Appendix A of these regulations gives the cost-effectiveness analysis guidelines. Both guidelines include mention of land application as alternative waste management systems.

Guidance for Facilities Planning - The publication, Guidance for Facilities Planning, March 1974, provides supplemental guidance and information regarding planning and evaluation of various alternatives for publicly-owned waste treatment works. Basically, facilities planning includes (1) a statement of the problems; (2) an inventory of existing systems; (3) a projection of future conditions; (4) setting of goals and objectives; (5) an evaluation of alternatives, which may variously include land treatment or reuse of wastewater, flow reduction measures (including the correction of excessive infiltration/flows, alternative system configurations, phased development of facilities, or improvements in operation and maintenance) to meet those goals and objectives; and (6) an assessment of the environmental impacts of the alternatives. Such planning provides for cost-effective and environmentally sound treatment works which will meet applicable effluent limitations.

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Cost-Effectiveness Analysis Guidelines - Regulations for the cost-effectiveness analysis (40 CFR 35 Appendix A), published in the Federal Register on September 10, 1973, provide information for determining the most cost-effective waste treatment management system or the most cost-effective component part of any waste treatment management system, including the identification, selection, and screening of alternative waste management systems. These alternatives should include systems discharging to receiving waters, systems using land or subsurface disposal techniques, and systems employing the reuse of wastewater. A complete text of the guidelines is included herein as Appendix G.

Secondary Treatment Information (Section 304 (d)(1))

Information on secondary treatment (40CFR 133) was published in the Federal Register on August 17, 1973. Land-application systems with point source discharges must comply with these minimum standards.

Alternative Waste Management Techniques for Best Practicable Waste Treatment (Section 304 (d)(2))

This publication provides information on best practicable treatment technology (BPT) and contains information and criteria for waste management techniques involving land application. The proposed BPT criteria for a land-application system where the effluent results in permanent groundwater are based on protection of groundwater for drinking water supply purposes. The proposed version, dated March 1974, is now being finalized.

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INTRODUCTION

The purpose of this publication is to suggest procedures for the evaluation and review of municipal wastewater treatment system alternatives that employ the land application of effluent. It is not intended to be used as a design guide. An Evaluation Checklist and background information are provided, and procedures are given for evaluating alternatives dealing with irrigation, infiltration-percolation, overland flow, or combinations of these land-application approaches. Systems involving injection wells, sealed evaporation ponds, or septic-tank leach fields for wastewater disposal are excluded, as are systems in which sludge is applied to the land.

To properly evaluate each step involved in planning, design, and operation of soil systems, the Evaluation Checklist is divided into three major parts dealing with: (1) facilities plans, (2) design plans and specifications, and (3) operation and maintenance manuals. Organization of the text containing the background information parallels the Evaluation Checklist and is keyed to it by appropriate symbols in the headings.

FACILITIES PLAN (PART I)

The recommended wastewater management plan should be based on the apparent best alternative as derived from a detailed evaluation of the various treatment alternatives. These alternatives should include systems using land-application as required in the cost-effectiveness analysis guidelines (40 CFR 35, Appendix A) and the best practicable treatment (BPT) document [3]. When BPT is referred to throughout this bulletin, it refers to reference [3], which was in proposed form at the time of publication, and any future revisions to that document.

The focus of Part I is on the thorough evaluation of land-application alternatives, and the preparation of a detailed facilities plan. It should be used in conjunction with Guidance for Facilities Planning [62]. The result should be definitive regarding design criteria, so that design plans and specifications may easily follow. An attempt has been made to avoid restrictive or dogmatic standards because most design criteria are site-specific. Instead, important considerations are discussed and reasonable ranges suggested. Key elements to consider are: (1) Did the engineer consider appropriate land-application approaches or combinations and modifications thereof, and (2) What was the basis for screening the land-application alternatives?

Emphasis is placed on long-range planning and environmental factors. Are the alternatives compatible with local and regional planning goals and objectives? With regard to environmental factors, a careful assessment must be made of the completeness and detail of the investigation and the overall design considerations provided to minimize any adverse impacts.

The normal sequence and interrelationship of steps in the preparation of a wastewater management plan are presented in Figure 1. For the most part,

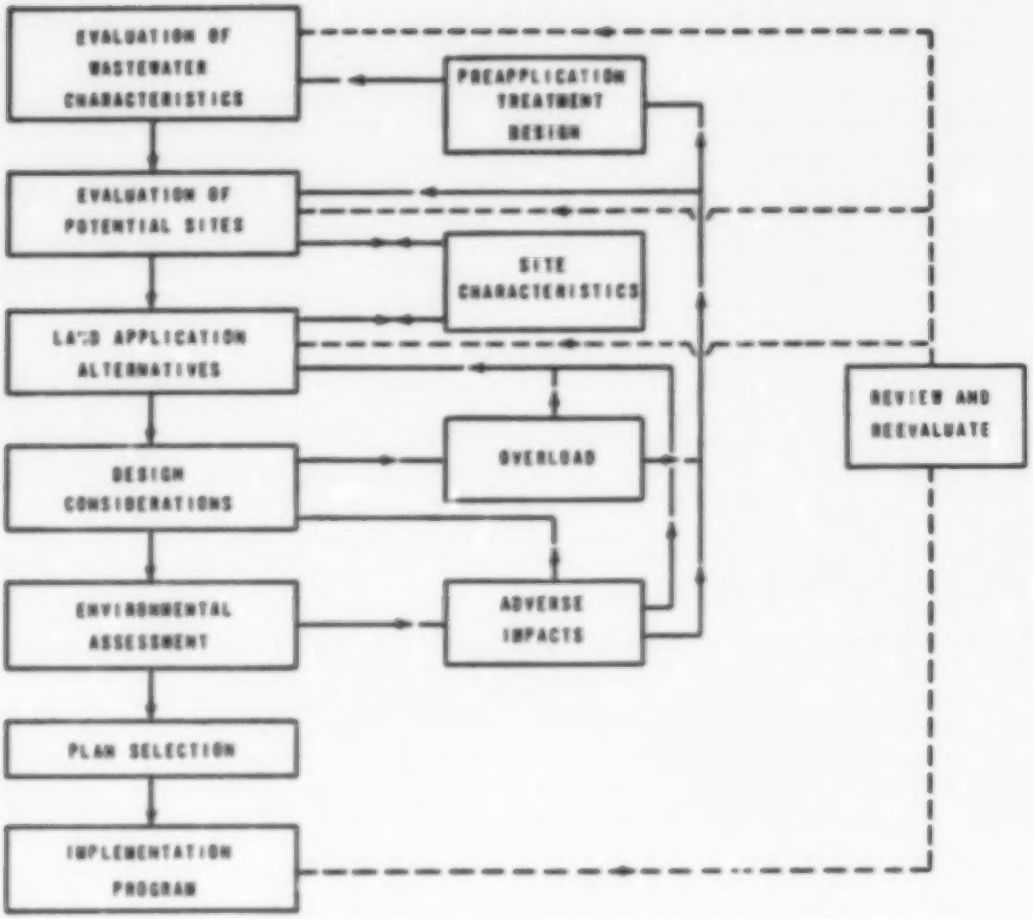

Figure 1. Planning sequence for land-application alternatives

these steps correspond directly in title and sequence to the sections in Part I. The planning process involves repeating the sequence of steps until the implementation program is finalized.

DESIGN PLANS AND SPECIFICATIONS (PART II)

The design plans and specifications should be a logical extension of the facilities plan. Details of the wastewater management plan are presented in the plans and specifications for implementation and construction purposes. A complete listing of site characteristics and major design criteria should accompany or be included in the plans and specifications for ease in evaluation. Important considerations in design are discussed in Part II with stress placed on the continuity between recommendations in the facilities plan and features of the design.

OPERATION AND MAINTENANCE MANUAL (PART III)

The Operation and Maintenance Manual is a tool of fundamental importance for management of the treatment system. The design concepts should be clearly explained and procedures for operating and maintaining the facilities must be delineated. The manual is intended to be a guide for the operators of the treatment facilities and will help to ensure that they understand the key design features and the objectives for which the system was designed. The manual should include maintenance schedules, monitoring programs, and recommendations for manpower utilization. Additionally, potential problem areas, symptoms of process malfunction, and methods of control of adverse impacts should be described. Special considerations, such as agricultural practices for irrigation systems, should also be included.

Extensive reference is made to Considerations for the Preparation of Operation and Maintenance Manuals [61] throughout Part III, and Section A is devoted entirely to a discussion of the use of this reference. In the remaining three sections, additional considerations particular to operation and maintenance manuals for land-application systems are presented.

CONSIDERATION OF SYSTEM SIZE

The scope of the Evaluation Checklist is aimed at moderate-to-large sized land-application systems. The extent to which planning and design of small systems (say 0.5 mgd or less) should adhere to all points in the checklist is left to the discretion of the evaluator.

SOURCES OF DATA

Throughout this report, major sources of information on each subject are cited for easy references. These sources should not be viewed as the only ones available; when appropriate, other interested agencies, such as the USDA and FDA, or local government, university, or independent consultants should be sought out for pertinent data. References cited by bracketed numbers in the text are listed in alphabetical order in Appendix A. A short annotated bibliography of the major reports on land application of wastewater is included as Appendix B.

PUBLIC ACCEPTANCE

In many cases, public acceptance may be the primary limiting factor in the implementation of land-application projects. At each step in the review process, the evaluator should ensure that areas of public concern have been identified, and that these concerns are reflected in the facilities plan, plans and specifications, and operation and maintenance manual.

One source of public concern is often the relative uncertainty over various health effects. With regard to this concern, the evaluator should pay particular attention to such items as the degree of preapplication treatment, types of crops that may be grown, and the degree of public contact with the effluent.

EVALUATION CHECKLIST FOR TREATMENT ALTERNATIVES EMPLOYING LAND APPLICATION OF WASTEWATER

The purpose of this checklist is to provide reviewers with the pertinent factors to be considered in the planning, design, and operation of systems employing land application of municipal effluents. The format of the checklist has been selected to enable the reviewer to enter a check mark or comment to the right of each item. Items are arranged so that the more important ones appear first. Those items for which a dashed checkline appears are desirable but not essential considerations. The notation and headings used are generally the same as those used in the background information text.

Part I FACILITIES PLAN

A. Project Objectives

Objectives and goals relevant to water quality, protection of groundwater aquifer, the need for augmenting existing water resources, and any other desired effects should be considered initially.

B. Evaluation of Wastewater Characteristics

1. Flowrates

   Present, projected, and peak flow _____

2. Existing treatment

   a. Description _____

   b. Adequacy for intended project _____

3. Existing effluent disposal facilities

   a. Description _____

   b. Consideration of water rights _____

4. Composition of effluent to be applied

   a. Total dissolved solids _____

   b. Suspended solids _____

   c. Organic matter (BOD, COD, TOC) _____

   d. Nitrogen forms (all) _____

   e. Phosphorus _____

I-B.4. (continued)

f. Inorganic ions

(1) Heavy metals and trace elements

(2) Exchangeable cations (SAR)

(3) Boron

g. Bacteriological quality

h. Projected changes in characteristics

i. Are industrial wastewater components considered?

j. BPT constituents

C. Evaluation of Potential Sites

All potential sites should be considered on the basis of the criteria listed in this section, and should be reevaluated in the light of design considerations and environmental assessment.

1. General description

a. Location

(1) Distance from collection area or treatment plant

(2) Elevation relative to collection area

b. Compatibility with overall land-use plan

(1) Current use

(2) Proposed future use

(3) Zoning and adjacent land use

(4) Proximity to current and planned developed areas

(5) Is there room for future expansion?

c. Proximity to surface water

d. Number and size of available land parcels

2. Description of environmental characteristics

a. Climate

(1) Precipitation analysis and seasonal distribution

(2) Storm intensities

I-C.2.a. (continued)

(3) Temperature, with seasonal variations _____

(4) Evapotranspiration _____

(5) Wind velocities and direction _____

b. Topography

(1) Ground slope _____

(2) Description of adjacent land _____

(3) Erosion potential _____

(4) Flood potential _____

(5) Extent of clearing and field preparation necessary _____

c. Soil characteristics

(1) Type and description _____

(2) Infiltration and percolation potential _____

(3) Soil profile _____

(4) Evaluation by soil specialists _____

d. Geologic formations

(1) Type and description _____

(2) Evaluation by geologist _____

(3) Depth of formations _____

(4) Earthquake potential _____

e. Groundwater

(1) Depth to groundwater _____

(2) Groundwater flow _____

(3) Depth and extent of any perched water _____

(4) Quality compared to requirements _____

(5) Current and planned use _____

(6) Location of existing wells

(a) On site _____

(b) Adjacent to site _____

f. Receiving water (other than groundwater)

(1) Type of body _____

I-C.2.f. (continued)

(2) Current use _____

(3) Existing quality _____

(4) Is it water-quality limited? _____

(5) Is it effluent limited? _____

(6) Water rights _____

3. Methods of land acquisition or control

a. Purchase _____

b. Lease _____

c. Purchase and lease back to farmer _____

d. Contract with users _____

e. Other _____

D. Consideration of Land-Application Alternatives

Based on the project objectives and characteristics of the selected potential sites, appropriate methods of land application should be considered.

1. Irrigation

a. Purpose

(1) Optimization of crop yields _____

(2) Maximization of effluent application _____

(3) Landscape irrigation _____

b. Application techniques

(1) Spraying _____

(2) Ridge and furrow _____

(3) Flooding _____

2. Infiltration-percolation

a. Purpose

(1) Groundwater recharge _____

(2) Pumped withdrawal or underdrains _____

(3) Interception by surface water _____

b. Application techniques

(1) Spreading _____

(2) Spraying _____

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I-D. (continued)

3. Overland flow (spray-runoff)
   a. Purpose
      (1) Discharge to surface waters _____
      (2) Reuse of collected runoff _____
   b. Application techniques
      (1) Spraying _____
      (2) Flooding _____
4. Combinations of treatment techniques
   a. Combinations of land-application techniques at the same or different sites _ _ _
   b. Combinations of land-application with in-plant treatment and receiving water discharge _ _ _
5. Compatibility with site characteristics _____

E. Design Considerations

1. Loading rates
   a. Liquid loading/water balance
      (1) Design precipitation _____
      (2) Effluent application _____
      (3) Evapotranspiration _____
      (4) Percolation _____
      (5) Runoff (for overland flow systems) _____
   b. Nitrogen mass balance
      (1) Total annual load _____
      (2) Total annual crop uptake _____
      (3) Denitrification and volatilization _____
      (4) Addition to groundwater or surface water _____
   c. Phosphorus mass balance _____
   d. Organic loading rate (BOD)
      (1) Daily loading _____
      (2) Resting-drying period for oxidation _____
   e. Loadings of other constituents _____

I-E. (continued)

2. Land requirements
   - a. Field area requirement _____
   - b. Buffer zone allowance _____
   - c. Land for storage _____
   - d. Land for buildings, roads and ditches _____
   - e. Land for future expansion or emergencies _____

3. Crop selection
   - a. Relationship to critical loading parameter _____
   - b. Public health regulations _____
   - c. Ease of cultivation and harvesting _____
   - d. Length of growing season _____
   - e. Landscape requirements _____
   - f. Forestland _____

4. Storage requirements
   - a. Related to length of operating season and climate _____
   - b. For system backup _____
   - c. For flow equalization _____
   - d. Secondary uses of stored wastewater _____

5. Preapplication treatment requirements
   - a. Public health considerations _____
   - b. Relationship to loading rate _____
   - c. Relationship to effectiveness of physical equipment _____

6. Management considerations
   - a. System control and maintenance _____
   - b. Manpower requirements _____
   - c. Monitoring requirements _____
   - d. Emergency procedures _____

7. Cost-effectiveness analysis
   - a. Capital cost considerations _____
     - (1) Construction or other cost index _____
     - (2) Service life of equipment _____
     - (3) Land cost _____

I-E.7. (continued)

b. Fixed annual costs

(1) Labor _____

(2) Maintenance _____

(3) Monitoring _____

c. Flow-related annual costs

(1) Power _____

(2) Crop sale or disposal _____

d. Nonmonetary factors _____

8. Flexibility of alternative

a. With regard to changes in treatment requirements _____

b. With regard to changes in wastewater characteristics _____

c. For ease of expansion _____

d. With regard to changing land utilization _____

e. With regard to technological advances _____

9. Reliability

a. To meet or exceed discharge requirements _____

b. Failure rate due to operational breakdown _____

c. Vulnerability to natural disasters _____

d. Adequate supply of required resources _____

e. Factors-of-safety _____

10. Best practicable waste treatment technology (BPT)

a. Requirements for groundwater quality _____

b. Requirements for treatment and discharge _____

F. Environmental Assessment

The impact of the project on the environment, including public health, social, and economic aspects must be assessed for each land-application alternative.

1. Environmental impact

a. On soil and vegetation _____

b. On groundwater

(1) Quality _____

I-F.1.b. (continued)

(2) Levels and flow direction _____

c. On surface water

(1) Quality _____

(2) Influence on flow _____

d. On animal and insect life _____

e. On air quality _____

f. On local climate _____

2. Public health effects

a. Groundwater quality _____

b. Insects and rodents _____

c. Runoff from site _____

d. Aerosols _____

e. Contamination of crops _____

3. Social impact

a. Relocation of residents _____

b. Effects on greenbelts and open space _____

c. Effect on recreational activities _____

d. Effect on community growth _____

4. Economic impact

a. On overall local economy _____

b. Tax considerations (land) _____

c. Conservation of resources and energy _____

G. Implementation Program

The ability to implement the project must be assessed in light of the overall impact, the effectiveness of the tentative design, and with regard to public opinion.

1. Public information program

a. Approaches to public presentation

(1) Local officials _____

(2) Public hearings _____

(3) Mass media _____

I-G.1.a. (continued)

(4) Local residents and land owners _____

(5) Communication with special-interest groups _____

b. Public opinion

(1) Engineer's response _____

(2) Review of problem areas _____

2. Legal considerations _____

3. Reevaluation of ability to implement project _____

4. Implementation schedule

a. Construction schedule _____

b. Long-range management plan _____

EVALUATION CHECKLIST FOR TREATMENT SYSTEMS EMPLOYING LAND APPLICATION OF WASTEWATER

Part II DESIGN PLANS AND SPECIFICATIONS

The purpose of this part is to ensure completeness of the engineering design considerations and to assess the compatibility of the design with the facilities plan.

A. Agreement with Facilities Plan

1. Modifications

a. Have modifications affected other design criteria? _____

b. Is supporting material included? _____

c. Were pilot studies recommended in the report? _____

2. Reevaluation of facilities plan

a. With regard to changes in the interim period

(1) In federal or state regulations _____

(2) In basin planning _____

b. With regard to findings of pilot studies _____

B. Site Characteristics

1. Topography

a. Site plan _____

b. Effects of adjacent topography

(1) Will it add storm runoff? _____

(2) Will it back up water onto site? _____

(3) Will it provide relief for drainage? _____

c. Erosion-prevention considerations _____

d. Earthwork required

(1) For field preparation _____

(2) For transmission, storage, and roads _____

II-B.1. (continued)

e. Method of disposal of trees, brush, and debris _____

2. Soil

a. Soil maps _____

b. Soil profiles

(1) Location _____

(2) Physical and chemical analysis _____

3. Geohydrology

a. Map of important geologic formations _____

b. Analysis of geologic discontinuities _____

c. Groundwater analysis _____

C. Design Criteria

1. Climatic factors

a. Precipitation

(1) Total annual precipitation _____

(2) Record maximum and minimum annual _____

(3) Monthly distribution _____

(4) Storm intensities _____

(5) Effects of snow _____

b. Temperature

(1) Monthly or seasonal averages and variation _____

(2) Length of growing season _____

(3) Period of freezing conditions _____

c. Wind _____

2. Infiltration and percolation rates

a. Design rates _____

b. Basis of determination

(1) Agriculture extension service or soil specialists _____

(2) From soil borings and profiles _____

(3) From analysis of SCS soil surveys _____

II-C.2.b. (continued)

(4) From farming experience ———

(5) From results of pilot studies — — —

3. Loading rates

a. List of loading rates ———

b. Critical loading rate ———

4. Land requirements

a. Application area

(1) Wetted area ———

(2) Field area ———

b. For buffer zones ———

c. For storage ———

d. For preapplication treatment, buildings, and roads ———

e. For future or emergency needs ———

5. Application rates and cycle

a. Annual liquid loading rate ———

b. Length of operating season ———

c. Application cycle

(1) Application period and rate ———

(2) Weekly application rate ———

(3) Resting or drying period ———

(4) Rotation of plots or basins ———

6. Crops/vegetation

a. Compatibility with site characteristics and loading rates ———

b. Nutrient uptake ———

c. Cultivation and harvesting requirements ———

d. Suitability for meeting health criteria ———

7. System components

a. Preapplication treatment facilities ———

b. Transmission facilities ———

c. Storage facilities ———

d. Distribution system ———

II-C.7. (continued)

e. Recovery system _____

f. Monitoring system _____

8. Design flexibility

a. Provisions for system expansion _____

b. Provisions for system modification _____

c. Interconnections and partial isolation _____

9. Reliability

a. Factors-of-safety _____

b. Backup systems _____

c. Contingency provisions

(1) Equipment or unit failure _____

(2) Natural disasters _____

(3) Severe weather _____

(4) Unexpected peak flows _____

D. Expected Treatment Performance

1. Removal efficiencies for major constituents _____

2. Remaining concentrations in renovated water _____

EVALUATION CHECKLIST FOR TREATMENT SYSTEMS EMPLOYING LAND APPLICATION OF WASTEWATER

Part III OPERATION AND MAINTENANCE MANUAL

The operation and maintenance manual should be prepared in accordance with EPA guidelines that deal specifically with the subject; however, special considerations for land-application systems are presented.

A. EPA – Considerations for Preparation of Operation and Maintenance Manuals

1. Introduction _____
2. Permits and standards _____
3. Description, operation, and control of wastewater treatment facilities _____
4. Description, operation, and control of sludge-handling facilities _____
5. Personnel _____
6. Laboratory testing _____
7. Records _____
8. Maintenance _____
9. Emergency operating and response program _____
10. Safety _____
11. Utilities _____
12. Electrical system _____
13. Appendixes _____

B. Operating Procedures

1. Application of effluent
   a. Distribution system _____
   b. Schedule of application _____
2. Agricultural practices
   a. Purpose of crop _____
   b. Description of crop requirements _____
   c. Planting, cultivation, and harvesting _____

III-B. (continued)

3. Recovery of renovated water _____
4. Storage _____
5. Special problems and emergency conditions _____

C. Monitoring

1. Parameters to be monitored _____
2. Monitoring procedures _____
   a. Location of sampling points _____
   b. Schedule of sampling _____
3. Interpretation of results _____
4. Surveillance and reporting _____

D. Impact Control

1. Description of possible adverse effects
   a. Environmental _____
   b. Public health _____
   c. Social _____
   d. Economic _____
2. Indexes of critical effects _____
3. Methods of control _____
4. Methods of remedial action _____

PART I

WASTEWATER MANAGEMENT PLAN

Section A

PROJECT OBJECTIVES

Proper evaluation of land application of wastewater as a treatment alternative requires that a clear set of project goals and objectives be established. The success of the project will depend to a large degree upon the careful formulation of these objectives. Some of the major questions that should be answered are:

- What are the immediate and long-term water-quality objectives?
- Is there potential for meeting the BPT requirements for protecting groundwater?
- Is there a need to consider wastewater as a means of augmenting existing water resources?
- What are the areal plans and policies for land use?
- Is there a need to minimize land requirements?
- Is there a need to minimize use of resources (or energy)?

Immediate and long-term water-quality objectives should be determined for both surface waters and groundwater in order that treatment requirements may be assessed for potential systems. These objectives should be related to both the basin water quality management plan (40 CFR 131), and the areawide waste treatment plan (40 CFR 35.1050). Critical parameters and constituents, and special water-quality problems of a particular area should be identified.

The BPT requirements [3] establish a need to protect all groundwater to some level. As stated in the BPT document, "land application practices should not further degrade the air, land, or navigable waters; should not interfere with the attainment or maintenance of public health, state, or local land use policies; and should insure the protection of public water supplies, agricultural and industrial water uses, propagation of a balanced population of aquatic and land flora and fuana, and recreational activities in the area." The water-quality criteria for drinking water supplies are the most thoroughly defined of the above objectives, and may often be adequate alone. However, there may be instances where more stringent quality criteria may be required to protect beneficial uses other than drinking water. A determination should be made of the potential for meeting the BPT requirements for protecting groundwater based on the effluent quality to be applied (I-B.4), the site and groundwater characteristics (I-C.2), the type of land-application system (I-D), and design loading rates (I-E.1).

The overall water-use plan should be evaluated to determine the value of using wastewater to augment existing water resources. For many areas, the reuse of wastewater may offer new water-use possibilities, or may relieve requirements for fresh water. Irrigation, groundwater recharge, and water-based recreation are water-use possibilities that could be investigated.

Land-use trends and plans should be evaluated to determine if a land-application system would be compatible with other land uses, and if land exists that may benefit from land application of effluent. The need for land for other purposes, such as industrial, commercial, or residential expansion should be determined, as should beneficial effects, such as development of agricultural land, parks, or greenbelts.

The availability of land may be limited or land costs may be high in many densely populated or developed areas. The need to minimize land requirements will then become an important consideration in which high-rate application systems, such as infiltration-percolation and overland flow, are emphasized.

Resources necessary for various treatment alternatives that must be conserved should be noted. Materials and chemicals required for certain treatment processes, and energy are among those resources that may be limited in supply and must be conserved.

Section B

EVALUATION OF WASTEWATER CHARACTERISTICS

A necessary preliminary step when planning for a land-application system, as with any other treatment system, is a detailed evaluation of the wastewater characteristics. The characteristics will, to some degree, affect the treatment method – whether irrigation, overland flow, or infiltration-percolation – and will directly affect the system design. Evaluation of the wastewater characteristics should include: (1) flowrates, (2) quality changes resulting from existing treatment, (3) existing effluent disposal practices, and (4) composition of effluent.

B. 1. FLOWRATES

The quantity of effluent to be treated by the land-application system should be estimated as closely as possible. Clearly, the success of the project will depend to a large degree on the accuracy of estimating flowrates. Flowrates which should be estimated include:

- Present or initial flow
- Present sustained peak flow
- Projected future flow
- Projected sustained peak flow

Instantaneous peaks (less than 1 hour in duration) will have little effect on most designs; however, sustained peaks for 3 or 4 hours or more may require special design features in pumping, preapplication treatment, or storage. In some cases, industrial flows, such as from canneries, may result in seasonal peaks lasting for several months. In such cases, special provisions must be made, such as using additional land.

Stormwater must be considered for combined sewer systems and an infiltration/inflow analysis must be conducted on sanitary sewer systems to determine the extent of groundwater or stormwater infiltration. The EPA publication on urban stormwater management and technology [79] will be a useful reference for assessing the magnitude of stormwater flows and the problems that may be encountered. Infiltration/inflow analysis should be conducted in accordance with Federal Regulation 35.927 [59] and the EPA publication entitled, Guidance for Sewer System Evaluation [63]. Where large sustained peaking factors exist as a result of infiltration/inflow or industrial/commercial activity, consideration may be given to storage for flow equalization.

B.2. EXISTING TREATMENT

Where land application is to be used, varying degrees of preapplication treatment, ranging from primary screening to secondary treatment with advanced treatment for certain constituents may be required. The degree of preapplication treatment necessary will depend upon a number of factors, including the land-application method, the effluent limitations established, the groundwater-quality criteria established in the BPT document [3], and the design features of the system (see I-E.5). In most cases where land application is to be an additional step, existing treatment facilities may partially fulfill preapplication treatment requirements. The existing facilities should be evaluated for capacity, degree of treatment, and adaptability for land-application alternatives.

B.3. EXISTING EFFLUENT DISPOSAL FACILITIES

Existing effluent disposal practices should be described as they relate to the overall basin hydrology. Existing and proposed effluent or water-quality standards should be specified, and the record of effluent quality should be reviewed. The two should be compared and any discrepancies should be explained. Existing water rights should be investigated if a change is anticipated in disposal practice. In the western states, where water rights are generally of greater concern, it may be helpful to consult with the state agency involved in water rights.

B.4. COMPOSITION OF EFFLUENT

The composition of the effluent to be applied to the land should be evaluated with respect to the constituents in the following discussion. The constituents of importance in an individual case will depend upon the effluent limitations, groundwater protection criteria from the BPT document, and guidelines for irrigation water quality. The concentrations determined should be related to existing preapplication treatment practices and to additional preapplication treatment requirements as discussed in Section E. The degree to which the list is adhered to is dependent upon the type and size of the project, and the sources of wastewater. Where high constituent concentrations are suspected, they should be evaluated more thoroughly. Because the acceptability of wastewater characteristics for land application will depend heavily upon site characteristics, type and purpose of system, and loading rates, the evaluation cannot be completed until these interactions are considered.

B.4.a. Total Dissolved Solids

The aggregate of the dissolved compounds is the TDS (total dissolved solids). The TDS content, which is related to the EC (electrical conductivity), is generally more important than the concentration of any specific ion. High TDS (total dissolved solids) wastewater can cause a salinity hazard to crops, expecially where annual evapotranspiration exceeds annual precipitation. A general classification as to salinity hazard by TDS content and electrical conductivity is given in Table 1. It should be noted that these values were developed primarily for the arid and semiarid parts of the country. The

effects of high TDS on crop yields are discussed in Section E (I-E.3.a.). High-TDS wastewater may also create problems if allowed to percolate to the permanent groundwater.

Table 1. GENERAL GUIDELINES FOR SALINITY IN IRRIGATION WATER[a] [110]

Classification[b]	TDS, mg/l	EC, mmhos/cm
Water for which no detrimental effects are usually noticed	500	0.75
Water that can have detrimental effects on sensitive crops	500-1,000	0.75-1.50
Water that can have adverse effects on many crops, requiring careful management practices	1,000-2,000	1.50-3.00
Water that can be used for tolerant plants on permeable soils with careful management practices	2,000-5,000	3.00-7.50

a. Normally only of concern in arid and semiarid parts of the country.

b. Crops vary greatly in their tolerance to salinity (TDS or EC). Crop tolerances are given in Section E.

B.4.b. Suspended Solids

Suspended solids in applied effluents are important because they have a tendency to clog sprinkler nozzles and soil pores and to coat the land surface. A large percentage of the suspended solids can be removed easily by sedimentation. When applied to the land at acceptable loading rates, almost complete removal can be expected from the percolate.

B.4.c. Organic Matter

Organic matter, as measured by BOD, COD, and TOC, is present in the dissolved form as well as in the form of suspended and colloidal solids. Ordinarily, concentrations are low enough not to cause any short-term effects on the soil or vegetation. Organic compounds, such as phenols, surfactants, and pesticides, are usually not a problem but in high concentrations they can be toxic to microorganisms.

BOD applied is removed from the wastewater very efficiently by each land-application method. The loading applied, however, will greatly influence the resting period for soil reaeration and may influence liquid loading rates (I.E.1.d.).

For groundwater quality protection, the organic forms to be considered include carbon chloroform extractable and carbon alcohol extractable compounds as well as pesticides and foaming agents. There are few data on removal of these compounds by soils from applied municipal effluents.

B.4.d Nitrogen Forms

Nitrogen contained in wastewater may be present as: ammonium, organic, nitrate, and nitrite; with ammonium and organic usually being the principal forms. In a nitrified effluent, however, nitrate nitrogen will be the major form. Relationships between these forms and renovation mechanisms for land-application treatment systems are explained in references [125, 130, 141]. Because nitrogen removal is sensitive to a variety of environmental conditions, monitoring of nitrogen concentrations is usually required. To avoid confusion, concentrations of each form should be expressed as nitrogen.

Nitrogen is important because when it is converted to the nitrate form, it is mobile and can pass through the soil matrix with the percolate. In groundwater, nitrates are limited to 10 mg/l by the proposed BPT criteria, while in surface waters nitrates may also aggravate problems of eutrophication. Nitrogen loadings and removal mechanisms are discussed in Section E (I-E.1.b.).

B.4.e. Phosphorus

Phosphorus contained in wastewater occurs mainly as inorganic compounds, primarily phosphates, and is normally expressed as total phosphorus. Phosphorus removal is accomplished through plant uptake and by fixation in the soil matrix. The long-term loadings of phosphorus are important because the fixation capability of some soils may be limited over the normal expected lifespan of the system (I-E. 1. c.). Phosphorus that reaches surface waters as a result of surface runoff or interception of groundwater flow may aggravate problems of eutrophication. Detailed discussions of phosphorus reactions in soil are contained in Bailey [9] and Reed [130].

B.4.f. Inorganic Ions

Inorganic chemical constituents in wastewater can present problems to land-application systems, through the effect of specific ions on the soil, plants, and groundwater. Irrigation requirements for chlorides, sulfates, boron, and carbonates are detailed in Water Quality Criteria [110, 176]. Concentrations of TDS, boron, sodium, chlorides, and carbonates that could cause various deleterious effects on plants are listed in Table 2. In most cases, the concentrations present in municipal wastewater are within these limits; however, a complete mineral analysis of the wastewater should be conducted. Problems encountered from high boron concentrations and high sodium adsorption ratios

Table 2. WATER-QUALITY GUIDELINES [7]

Problem and related constituent	Guideline values: No problem	Increasing problems	Severe
Salinity[a]			
EC of irrigation water, in millimhos/cm	<0.75	0.75-3.0	>3.0
Permeability			
EC of irrigation water, in mmho/cm	>0.5	<0.5	<0.2
SAR (Sodium adsorption ratio)	<6.0	6.0-9.0	>9.0
Specific ion toxicity[b]			
From root absorption			
Sodium (evaluate by SAR)	<3	3.0-9.0	>9.0
Chloride, me/l	<4	4.0-10	>10
Chloride, mg/l	<142	142-355	>355
Boron, mg/l	<0.5	0.5-2.0	2.0-10.0
From foliar absorption[c] (sprinklers)			
Sodium, me/l	<3.0	>3.0	--
Sodium, mg/l	<69	>69	--
Chloride, me/l	<3.0	>3.0	--
Chloride, mg/l	<106	>106	--
Miscellaneous[d]			
NH_4-N, NO_3-N mg/l for sensitive crops	<5	5-30	>30
HCO_3, me/l [only with overhead sprinklers]	<1.5	1.5-8.5	>8.5
HCO_3, mg/l [only with overhead sprinklers]	<90	90-520	>520
pH	Normal range =	6.5-8.4	--

a. Assumes water for crop plus needed water for leaching requirement (LR) will be applied. Crops vary in tolerance to salinity. Refer to tables for crop tolerance and LR. mmho/cm x 640 = approximate total dissolved solids (TDS) in mg/l or ppm; mmho x 1,000 = micromhos.

b. Most tree crops and woody ornamentals are sensitive to sodium and chloride (use values shown). Most annual crops are not sensitive (use salinity tolerance tables).

c. Leaf areas wet by sprinklers (rotating heads) may show a leaf burn due to sodium or chloride absorption under low-humidity, high-evaporation conditions. (Evaporation increases ion concentration in water films on leaves between rotations of sprinkler heads.)

d. Excess N may affect production or quality of certain crops, e.g., sugar beets, citrus, grapes, avocados, apricots, etc. (1 mg/l NO_3-N = 2.72 lb N/acre-ft of applied water.) HCO_3 with overhead sprinkler irrigation may cause a white carbonate deposit to form on fruit and leaves.

Note: Interpretations are based on possible effects of constituents on crops and/or soils. Guidelines are flexible and should be modified when warranted by local experience or special conditions of crop, soil, and method of irrigation.

are perhaps the most common; however, heavy metals and trace elements can also cause problems. Recommended maximum concentrations for trace elements in irrigation waters are given in Table 3. For groundwater quality protection, the constituents included in the BPT criteria are of importance.

B.4.f.1. Heavy Metals and Trace Elements – Although some heavy metals are essential in varying degrees for plant growth, most are toxic, at varying levels, to both plant life and microorganisms. The major risk to land treatment systems from heavy metals is in the long-term accumulation in the soil, because they are retained in the soil matrix by adsorption, chemical precipitation, and ion exchange. Retention capabilities are generally good for most metals in most soils especially for pH values above 7. Page [113], Chapman [27], and Mortvedt [107] have reviewed and discussed the fate and effects of heavy metals in soils.

Generally, zinc, copper, and nickel make the largest contributions to the total heavy metal content. Zinc is used as a standard for plant toxicity, with copper being twice as toxic and nickel being eight times as toxic [63]. A "zinc equivalent" can thus be determined for these two metals. Research is continuing in an attempt to determine the relative phytotoxicities of other metals. For infiltration-percolation systems the effects of heavy metals reaching the groundwater must be considered (see I-C.2.e.).

B.4.f.2. Exchangeable Cations – The effect of concentrations of sodium, calcium, and magnesium ions deserves special consideration. They are related by the sodium adsorption ratio (SAR), defined as [37]:

$$SAR = \frac{Na}{\sqrt{\frac{Ca + Mg}{2}}} \qquad (1)$$

where Na, Ca, and Mg are the concentrations of the respective ions in milliequivalents per liter of water. High SAR (greater than 9) values may adversely affect the permeability of soils [7]. Other exchangeable cations, such as ammonium and potassium, may also react with soils. High sodium concentrations in soils can also be toxic to plants, although the effects on permeability will generally occur first [110].

B.4.f.3. Boron – Boron is an essential plant micronutrient but is toxic to many plants at 1 to 2 mg/l [96]. In addition to the limited plant uptake, boron can be removed from solution by adsorption and fixation in the soil in the presence of iron and aluminum oxides [20], but only to a limited extent [130]. Relative tolerances of various plants to boron are presented in references [27, 37, 176].

Table 3. RECOMMENDED MAXIMUM CONCENTRATIONS OF TRACE ELEMENTS IN IRRIGATION WATERS [110][a]

Element	For waters used continuously on all soil, mg/l	For use up to 20 years on fine-textured soils of pH 6.0 to 8.5, mg/l
Aluminum	5.0	20.0
Arsenic	0.10	2.0
Beryllium	0.10	0.50
Boron	0.75	2.0-10.0
Cadmium	0.010	0.050
Chromium	0.10	1.0
Cobalt	0.050	5.0
Copper	0.20	5.0
Fluoride	1.0	15.0
Iron	5.0	20.0
Lead	5.0	10.0
Lithium	2.5[b]	2.5[b]
Manganese	0.20	10.0
Molybdenum	0.010	0.050[c]
Nickel	0.20	2.0
Selenium	0.020	0.020
Zinc	2.0	10.0

a. These levels will normally not adversely affect plants or soils. No data are available for mercury, silver, tin, titanium, tungsten.

b. Recommended maximum concentration for irrigating citrus is 0.075 mg/l.

c. For only acid fine-textured soils or acid soils with relatively high iron oxide contents.

B.4.g. Bacteriological Quality

Microorganisms, primarily bacteria, are normally present in large quantities in wastewater. The bulk of these microorganisms can be removed by conventional treatment, and the soil mantle is quite efficient in the removal of bacteria and probably viruses through the processes of filtration and adsorption [40, 43, 44, 77, 78, 143]. Problems may arise, however, in the actual application process, especially in spraying, where aerosols could present a health hazard (I-F.2.d.). High degrees of preapplication treatment, including disinfection, may be necessary, particularly in cases in which public access to the application area is allowed.

B.4.h. Projected Changes

The possibility of changes in wastewater characteristics should be investigated, both from the standpoint of projected future permanent changes and seasonal variations. Changes in characteristics may reflect those in water supply and local industries. Seasonal variations may be the result of variations in water-supply characteristics, domestic use, industrial use, and population fluctuations. Adverse changes in wastewater mineral quality may require selection of alternate crops or changes in loading rates.

B.4.i. Industrial Components

Industrial components often present in municipal wastewater normally require special consideration because of the occurrence of abnormal concentrations of certain constituents and their influence on the overall wastewater characteristics. Industries that discharge wastewater into municipal systems should be studied on the basis of: existing concentrations, seasonal variations, and expected changes in the plant process which might affect wastewater characteristics Industrial wastewater ordinances, generally designed to prevent discharge to sewers of elements and compounds in concentrations toxic to microorganisms, should be analyzed with regard to limiting the discharge of materials such as sodium or boron which may be toxic to plants. Reference should be made to the Pretreatment Standards (40 CFR 128).

B.4.j. BPT Constituents

The proposed BPT document [3] presents information and criteria on waste management alternatives for achieving best practicable treatment including land application, treatment and discharge, and reuse systems. Where land application systems discharge to surface waters, the discharge quality criteria are the same as for the conventional methods. Where land-application effluents result in permanent groundwater, the BPT document sets forth guidelines for protection of the groundwater quality which include chemical, pesticide, and bacteriological constituents. These guidelines should be consulted for limitations on any constituents not discussed previously in this section.

Section C

EVALUATION OF POTENTIAL SITES

The process of site selection for land-application systems should include an initial evaluation on the basis of criteria presented in this section. The environmental setting should be described and the individual site characteristics should be analyzed. Each site should then be reevaluated in light of considerations of treatment methods, design, and expected impacts.

C.1. GENERAL DESCRIPTION

A preliminary step in site evaluation should be a general description of the land involved. The environmental setting should be described with emphasis on:

- The location of the site
- The relationship to the overall land-use plan
- The proximity to surface water
- The number and size of available land parcels
- Location and use of any existing potable wells (I-C.2.e.6).

C.1.a. Location

The description of site location should include both the distance and elevation difference from the treatment plant or wastewater collection area. Both will affect the feasibility and economics of the transmission of the wastewater to the site. Any significant obstructions to transmission, such as rivers, freeways, or developed residential areas, should be noted.

C.1.b. Compatibility with Overall Land-Use Plan

Of significant importance in site selection is the compatibility of the intended use with regional land-use plans. The regional planners or the planning commission should be consulted as to the future use of potential sites.

During a visit to the site, the current use, adjacent land use, and proximity to areas developed for residential, commercial, or recreational activities can be ascertained. On the basis of a review of master plans or discussions with local planners, the proposed future use, zoning, and proposed development of the adjacent area can be determined.

C.1.c. Proximity to Surface Water

In many cases, the proximity of the potential site to a surface-water body may be of significance. For overland flow systems, and systems with underdrains or pumped withdrawal, discharge of renovated water to a surface-water body may be necessary. In such a case, the feasibility and cost of transmission may become important considerations. The relationship of surface water to the overall hydrology of the area, and particularly to the groundwater, should be evaluated. Water-quality aspects and site drainage are considered later in this section.

C.1.d. Number and Size of Available Land Parcels

The relative availability of land at potential sites, together with the probable price per acre, must be defined early in the evaluation. The number and size of available parcels will be of significance, especially in relation to the complexity of land acquisition and control – a subject that is discussed at the end of this section.

C.2. DESCRIPTION OF ENVIRONMENTAL CHARACTERISTICS

The environmental characteristics of a potential site that may affect the future selection of a land-application method and the subsequent design of the treatment system include: climate, topography, soil characteristics, geologic formations, groundwater, and receiving water. The degree of detail required for the evaluation of any one particular characteristic is highly variable and dependent upon the size of the project and the severity of local conditions. This discussion cannot cover all conceivable aspects, but the major environmental factors will be discussed.

C.2.a. Climate

Local climatic conditions will affect a large number of design decisions including: the method of land application, storage requirements, total land requirements, and loading rates. The National Weather Service, local airports, and universities are potential sources of climatological data. The data base should encompass a long enough period of time so that long-term averages and frequencies of extreme conditions can be established. Each of the climatic factors is discussed in the following paragraphs.

C.2.a.1. Precipitation – Analysis of rainfall data should be conducted with respect to both quantities and seasonal distribution. Quantities should be expressed in terms of averages, maximums, and minimums for the period of record. A frequency analysis should be made to determine the design annual precipitation, which will normally be the maximum precipitation values having a return period of a given number of years (the wettest year in a given number

of years). The plot of precipitation against return period on probability paper, a method commonly used to display the results of the frequency analysis, is illustrated in Figure 2. Different return periods may often be used for the determination of liquid loading rates (I-E. 1. a) and the determination of storage capacity (I-E. 4.).

In cold regions, an analysis of the snow conditions with respect to depth and period of snow cover may also be required. In most cases, except for some infiltration-percolation systems, periods of snow cover will necessitate storage of the effluent for later application.

C.2.a.2. Storm Intensities – An investigation of storm data for the period of record should be included in the precipitation study. A frequency analysis

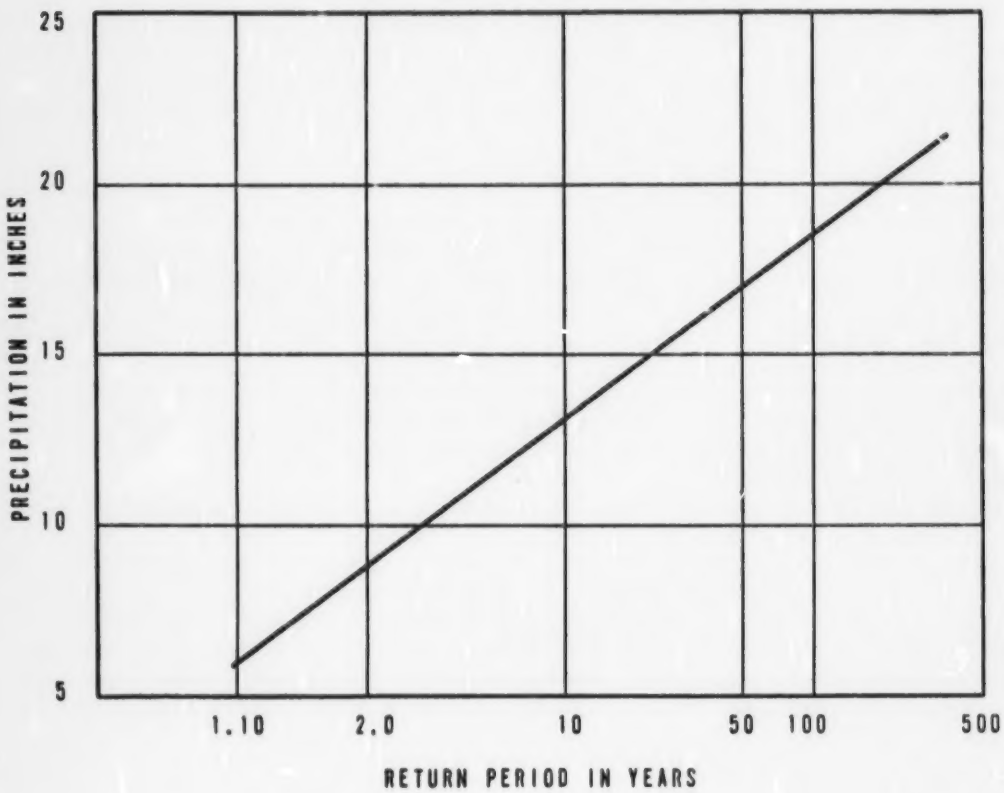

Figure 2. Typical frequency analysis for total annual precipitation

should be performed to determine the relationship between storm intensity, duration, and frequencies or return periods. The design storm event can then be analyzed for the amount of runoff it would produce and the need for any runoff control features can be determined.

C.2.a.3. Temperature – Temperature analysis should include the range of temperatures during the various seasons. Maximum periods of freezing conditions, particularly periods in which the ground is frozen, are of special interest in determining periods of inoperation. The effects of temperature are of importance in the selection of a land-application method, the design of the loading schedule, and in the determination of storage requirements. For irrigation of annual crops, the probable early and late season frost dates need to be determined.

C.2.a.4. Evapotranspiration – Evapotranspiration is the evaporation of water from the soil surface and vegetation plus the transpiration of water by plants. Evapotranspiration rates are dependent upon a number of factors, including humidity, temperature, and wind, and will significantly affect the water balance in almost all cases. Typical monthly totals are available in most areas from the National Weather Service, nearby reservoirs, the Agricultural Extension Service, or Agricultural Experiment Stations.

C.2.a.5. Wind – Analysis of wind velocity and direction may be required, and should contain seasonal variations and frequency of windy conditions. Wind analysis is of importance primarily for spray application systems, where windy conditions may require large buffer zones or temporary cessation of application.

C.2.b. Topography

The topography of the site and adjacent land is critical to the design of land-application systems. Normally, a detailed topographic map of the area will be necessary for site selection and the subsequent system design. Topographic maps are available from the U.S. Geological Survey. Information to be gained from an analysis of the topography is listed in the following discussion.

C.2.b.1. Ground Slope – Ground slope, usually expressed as a percentage, is an important site characteristic for the determination of the land treatment method and application technique. For example, the success of an overland flow system is highly dependent upon ground slope, and irrigation by flooding normally requires slopes of less than 1 percent. Foliated hillsides with slopes of up to 40 percent have been sprayed successfully with effluent [140, 142]. Ranges of values for successful operation are given in Section D.

C.2.b.2. Description of Adjacent Land – The topography of land adjacent to the potential site should be included in the topographic evaluation. Of primary concern are the effects of storm runoff, both from adjacent land onto the site and

from the site onto adjacent lands and surface water bodies. Also of concern will be areas downslope from the site where seeps may occur as a result of increased groundwater levels.

C.2.b.3. Erosion Potential – The erosion potential of the site and adjacent land should be predicted, and any required corrective action outlined. Both wastewater application rates and storm runoff should be considered. The typical Soil Conservation Service (SCS) evaluation of soils includes an analysis of erosion potential, which is valuable in determing the possible extent of the problem.

C.2.b.4. Flood Potential – The site topography should be evaluated and historical data reviewed to determine the possibility of flooding on the site or adjacent areas. Sites prone to flooding, such as flood plains, may still be suitable for land application but normally only if the physical equipment is protected and offsite storage is provided.

C.2.b.5. Extent of Clearing and Field Preparation Necessary – The extent of clearing and field preparation is largely dependent upon the selection of land-application method, the application technique, and the existing vegetation. Included in the evaluation should be:

- The extent of clearing of existing vegetation (if necessary)
- Disposition of cleared material
- Necessary replanting
- Earthwork required

Some of this information would be developed in detail in the environmental assessment.

C.2.c. Soil Characteristics

Soil characteristics are often the most important factors in selection of both the site and the land-application method. Definite requirements for soil characteristics exist for each of the method alternatives, with overland flow and infiltration-percolation having the strictest requirements. Information on soil characteristics can be obtained from the Soil Conservation Service, many universities, and the Agricultural Extension Service.

C.2.c.1. Type and Description – The soil at the potential site should be described in terms of its physical and chemical characteristics. Important physical characteristics include texture and structure, which are largely influenced by the relative percentages of the mechanical, or particle-size, classes (gravel, sand, silt, and clay). Chemical characteristics which may be of importance are: pH, salinity, nutrient levels, and adsorption and fixation capabilities for various inorganic ions. The following series of tests is suggested:

- pH
- Salinity or electrical conductivity
- Organic matter
- Total exchangeable cations
- Levels of nitrogen, phosphorus, potassium, magnesium, calcium, and sodium
- Percent of the base exchange capacity occupied by sodium, potassium, magnesium, calcium, and hydrogen

Reference is suggested to the University of California manual for analysis of soils, plants, and waters [26].

C.2.c.2. Infiltration and Percolation Potential – The potential of the soil for both infiltration and percolation is of great importance in the site selection and selection of application method. Infiltration, the entry of water into the soil, is normally expressed as a rate in inches per hour. The rate generally decreases with wetting time and previous moisture content of the soil; consequently, it should be determined under conditions similar to those expected during operation. Percolation is the movement of water beneath the ground surface both vertically and horizontally, but above the water table. It is normally, dependent upon several factors, including soil type; constraints to movement, such as lenses of clay, hardpan, or rock; and degree of soil saturation. The limiting rate (either infiltration or percolation) must be determined and reported in inch/day (cm/day) or inch/week (cm/week).

The standard percolation test is not recommended for determination of infiltration or percolation rates. The test results are not reproducible by different fieldmen [182] and are affected by hole width, gravel packing of holes, depth of water in holes, and the method of digging the holes. More importantly, if subsurface lenses exist, the water in the test hole will move laterally, with the result being a fairly high percolation rate. Designing a liquid loading rate on that basis would be disasterous because, when the entire field is loaded, the only area for flow is the few feet of depth to the lens times the field perimeter. Instead of using the percolation test, it is suggested that several or more of the following approaches be used as a basis of determining infiltration and percolation rates: (1) consultation with Agriculture Extension Service agents, state or local government soil scientists, or independent soil specialists; (2) engineering analysis of several soil borings and soil classifications; (3) engineering analysis of soil profiles supplied by the Soil Conservation Service (SCS); (4) consultation with county agents, agronomists, or persons having farming experience with the same, similar, or nearby soils; and (5) experience from pilot studies on parts of the field to be used.

C.2.c.3. Soil Profile – The soil profile, or relation of soil characteristics to depth, will normally be required for all site evaluations. Generally, the profile should be determined to depths of 2 to 5 feet (0.61 to 1.52 m) for overland flow, at least 5 feet (1.52 m) for irrigation, and at least 10 feet (3.05 m) for infiltration-percolation. The underlying soil layers should be evaluated principally for their renovation and percolation potentials. Lenses or constraints to flow below these levels should be located.

C.2.c.4. Evaluation by Soil Specialists – In most cases, an evaluation by soil specialists will be necessary to determine the overall suitability of the soil characteristics for the intended use. SCS representatives, soil scientists, agronomists, and Agricultural Extension Service representatives are possible sources to be consulted.

C.2.d. Geologic Formations

A basic description of the geologic conditions present and their effects should be required for all site evaluations. Infiltration-percolation sites and sites with suspected adverse geological conditions will require a relatively detailed analysis, while considerably less is required for most overland flow sites and many irrigation systems. Data on geological formations are available from the U.S. Geological Survey, state geology agencies, and occasionally from SCS or U.S. Bureau of Reclamation publications.

C.2.d.1. Type and Description – The geologic formations should be considered in terms of: the structure of the bedrock, the depth to bedrock, the lithology, degree of weathering, and the presence of any special conditions, such as glacial deposits. The presence of any discontinuities, such as sink holes, fractures or faults, which may provide short circuits to the groundwater, should be noted and thoroughly investigated. In addition, an evaluation of the potential of the area for earthquakes and their probable severity will often be of importance to the future design of the system.

C.2.d.2. Evaluation by Geologists – In many situations, an evaluation by a geologist or geohydrologist will be necessary. The geologist will be of value both in the investigation of the geologic conditions and in the evaluation of their effects. Of primary importance in the evaluation are the effects of the geology on the percolation of applied wastewater and the movement of groundwater.

C.2.e. Groundwater

An investigation of groundwater must be conducted for each site, with particular detail for potential infiltration-percolation and irrigation sites. Evaluations should be made by the engineer to determine both the effect of groundwater levels on renovation ca abilities and the effects of the applied wastewater on groundwater movement and quality with respect to the BPT requirements.

C.2.e.1. Depth to Groundwater – The depth to groundwater should be determined at each site, along with variations throughout the site, and seasonal variations. Depth to groundwater is important because it is a measure of the aeration zone in which renovation of applied wastewater takes place. Generally, the groundwater depth requirements are:

- Overland flow – sufficient depth not to interfere with plant growth
- Irrigation – at least 5 feet (1.52 m)
- Infiltration-percolation – preferably 15 feet (4.57 m) or more

Lesser depths may be acceptable where underdrains or pumped withdrawal systems are utilized.

When several layers of groundwater underlie a particular site, depths should be determined to each, unless they are separated by a continuous impervious stratum. The quality and current and planned use of each layer should also be determined.

C.2.e.2. Groundwater Flow – In most cases, the groundwater should be evaluated for direction and rate of flow and for the permeability of the aquifer. This evaluation may be unnecessary when percolation is minimal, as with an overland flow and some irrigation systems. For systems designed for high percolation rates, effects on the groundwater flow must be predicted.

Additionally, data on aquifer permeability may be evaluated, together with groundwater depth data, to predict the extent of the recharge mound. The direction of flow is important to the design of the monitoring system and should be traced to determine whether the groundwater will come to the surface, be intercepted by a surface water, or join another aquifer.

C.2.e.3. Perched Water – Perched water tables are the result of impermeable or semipermeable layers of rock, clay, or hardpan above the normal water table and may be seasonal or permanent. Perched water can cause problems for land-application systems by reducing the effective renovative depth. Sites should be investigated both for existing perched water tables and for the potential for development of new ones resulting from percolating wastewater. The effect of perched water tables should be evaluated, and the possibility of using underdrains investigated. A distinction should be made between permanent groundwater protected by impermeable strata and perched groundwater above such strata.

C.2.e.4. Quality Compared to Requirements – The quality of the groundwater is of great interest, especially in cases in which it is used for beneficial purposes or differs substantially from the expected quality of the renovated wastewater. The existing quality should be determined and compared to quality requirements for its current or intended use. The proposed requirements for BPT [3] include limitations for chemical constituents, pesticide levels, and bacteriological quality as discussed in I-B.4.

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C.2.e.5. Current and Planned Use — Both current and planned use of the groundwater should be determined, and the quality requirements for the various uses detailed. The distance from the site to the use areas may also be of importance, because further renovation may occur during lateral movement.

C.2.e.6. Location of Existing Wells — Much of the data required for groundwater evaluation may be determined through use of existing wells. Wells that could be used for monitoring should be listed and their relative location described. Historical data on quality, water levels, and quantities pumped that may be available from the operation of existing wells may be of value. Such data might include seasonal groundwater-level variations, as well as variations over a period of years. Logs containing soil data may be available from the drillers of these wells, and this information could augment data from soil borings or geological maps. It should be noted that much information on private wells can be obtained only with the owner's consent. Determining ownership and locating owners can be difficult and time-consuming.

C.2.f. Receiving Water (Other than Groundwater)

Land-application systems in which renovated water is recovered, particularly overland flow systems, may require discharge into a receiving surface water body. Such a discharge would require a permit under the National Pollution Discharge Elimination System (NPDES). If the receiving water is designated as effluent limited, the requirements for secondary treatment apply. If the receiving water is designated as water-quality limited, pursuant to Section 303 of P.L. 92-500, treatment must be provided consistent with the established water-quality standards. Included in the evaluation should be descriptions of: the type of body (lake, stream, etc.), its current use and water quality, prescribed water-quality standards and effluent limitations, and water-rights considerations. Special water-quality requirements and other considerations may exist when the potential receiving water is an intermittent stream. The current use of the water, together with its prescribed water-quality standards, will determine the degree of treatment necessary by the land-application system.

Water-rights considerations may require that certain quantities of renovated water be returned to a particular water body, particularly in the western states. In cases in which a change in method of disposal or point of discharge is contemplated, the state agency of other cognizant authority should be contacted, and the status of all existing water rights thoroughly investigated.

C.3. METHODS OF LAND ACQUISITION OR CONTROL

After potential sites have been selected, alternative methods of land acquisition or control should be assessed. Alternative methods include: (1) outright purchase of land with direct control, (2) appropriate lease of land with direct control, (3) purchase of land with lease back to farmer for the purpose of land application, and (4) contract with user of wastewater. An appropriate lease would be one in which the investment of funds for construction of the land-application system would be protected and direct control of the effluent application would be retained by the municipality or district.

The selection of an acquisition and control method is highly dependent on the selected method of application. Infiltration-percolation and overland flow systems normally require a high degree of control and may often be suitable only if outright purchase of the land is possible. Because land control requirements are more flexible for irrigation systems, the leasing of land to agricultural users may be possible. Leasing of required land is often best suited to pilot studies and temporary systems.

Grant eligibility has not been considered in the discussion of these methods. For land acquisition to be eligible for a construction grant, under P. L. 92-500, the land must be an integral part of the treatment process or is to be used for ultimate disposal of residues resulting from such treatment.

Section D

CONSIDERATION OF LAND-APPLICATION ALTERNATIVES

On the basis of the project objectives and the characteristics of the selected potential sites, various methods of land application should be considered. Alternatives can be classified into three main groups: irrigation, infiltration-percolation, and overland flow or spray-runoff. These alternatives differ considerably, with respect to both use for different objectives and requirements for site characteristics. Each method is shown schematically in Figure 3. The various possible uses for land-application approaches following some initial treatment are compared in Table 4. These objectives should then be related to the project objectives (I-A). Site characteristics discussed in the previous section that affect alternative selection will be briefly related to each of the three alternatives in the following presentation.

Table 4. COMPARISON OF IRRIGATION, OVERLAND FLOW, AND INFILTRATION-PERCOLATION OF MUNICIPAL WASTEWATER

Objective	Type of approach		
	Irrigation	Overland flow	Infiltration-percolation
Use as a treatment process with a recovery of renovated water[a]	0-70% recovery	50 to 80% recovery	Up to 97% recovery
Use for treatment beyond secondary:			
1. For BOD_5 and suspended solids removal	98+%	92+%	85-99%
2. For nitrogen removal	85+%[b]	70-90%	0-50%
3. For phosphorus removal	80-99%	40-80%	60-95%
Use to grow crops for sale	Excellent	Fair	Poor
Use as direct recycle to the land	Complete	Partial	Complete
Use to recharge groundwater	0-70%	0-10%	Up to 97%
Use in cold climates	Fair[c]	- -[d]	Excellent

a. Percentage of applied water recovered depends upon recovery technique and the climate.

b. Dependent upon crop uptake.

c. Conflicting data--woods irrigation acceptable, cropland irrigation marginal.

d. Insufficient data.

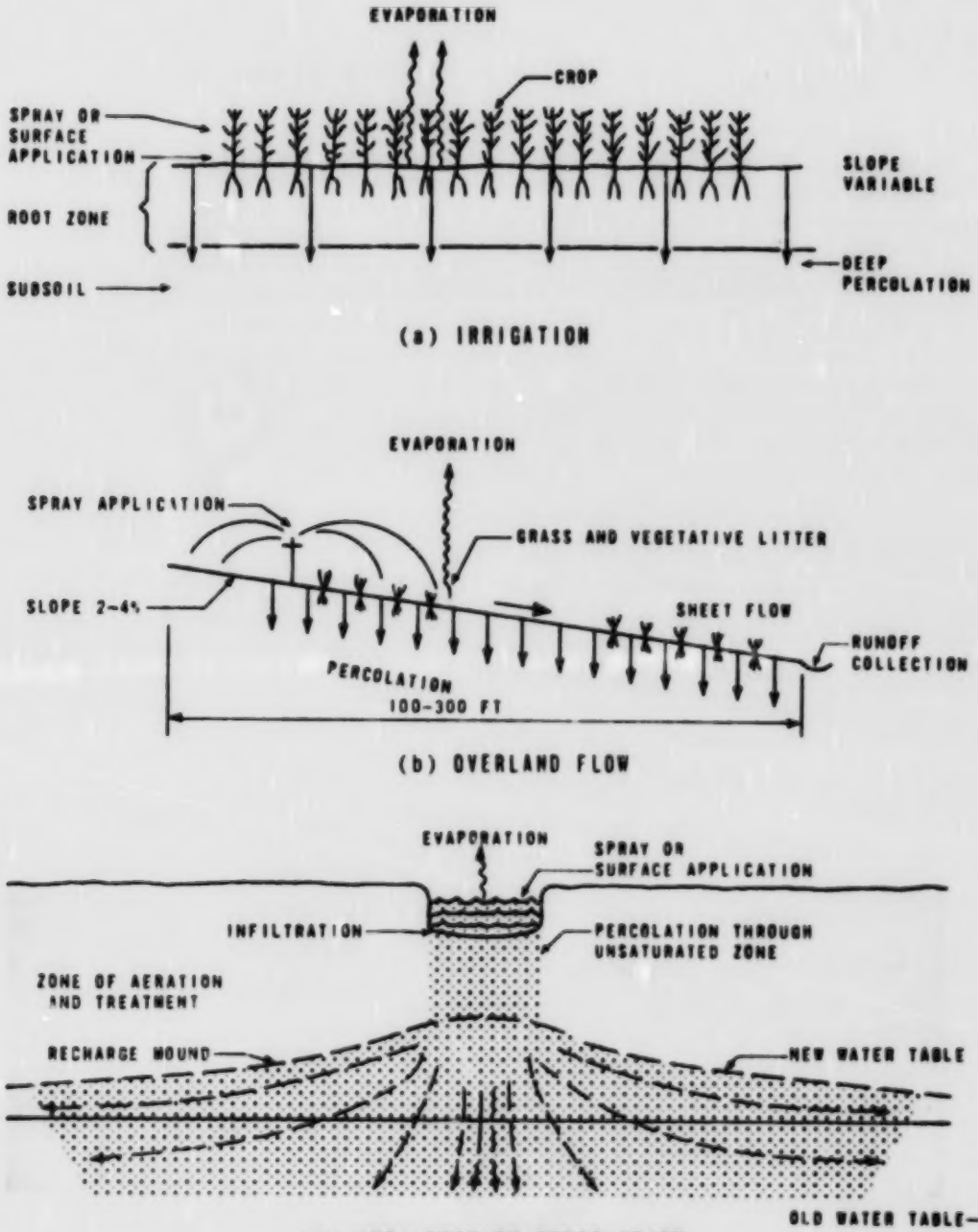


Figure 3. Methods of land application

D. 1. IRRIGATION

The most common method of treatment by land application is irrigation. It is the controlled discharge of effluent, by spraying or surface spreading, onto land to support plant growth. The wastewater is "lost" to plant uptake, to air by evapotranspiration, and to groundwater by percolation. Liquid loading rates up to 4 inches (10.2 cm) per week on a seasonal basis and 8 feet (2.44 m) per year on an annual basis are in this category. Systems with liquid loading rates exceeding these (other than overland flow) are normally considered to be of the infiltration-percolation type.

The range of suitable site characteristics for irrigation systems is wide. The major criteria generally considered preferable are as follows:

- Climate – warm-to-arid climates are preferable, but more severe climates are acceptable if adequate storage is provided for wet or freezing conditions.
- Topography – slopes up to 15 percent for crop irrigation are acceptable provided runoff or erosion is controlled.
- Soil type – loamy soils are preferable, but most soils from sandy loams to clay loams are suitable.
- Soil drainage – well-drained soil is preferable, however, more poorly drained soils may be suitable if drainage features are included in the design.
- Soil depth – uniformly 5 to 6 feet (1.52 to 1.83 m) or more throughout sites is preferred for root development and wastewater renovation.
- Geologic formations – lack of major discontinuities that provide short circuits to the groundwater is necessary.
- Groundwater – minimum depth of 5 feet (1.52 m) to groundwater is normally necessary to maintain aerobic conditions, provide necessary renovation, and prevent surface waterlogging. May be obtained by underdrains or groundwater pumping.

D. 1. a. Purpose of Irrigation

The suitability of a particular site, a particular effluent, and the future design of the system will depend, to a large degree, on the intended purpose of irrigation. Three distinct purposes have been identified.

- Optimization of crop yields
- Maximization of effluent application
- Landscape irrigation

Each purpose is defined and major design considerations are introduced in the material that follows:

D.1.a.1. Optimization of Crop Yields – Irrigation systems designed for this purpose are often used in situations in which effluent is offered to farmers for their own use. The application rate for the effluent is based only on the needs of the crop; normally, no more effluent is applied than is necessary for optimum crop yield. Relatively wide variations in application rates usually occur as a result of seasonal variations in crop moisture demand and seasonal precipitation. Consequently, total land and storage requirements may be relatively high. Operation without purchase of land for irrigation may be possible through contracts with users of the wastewater.

D.1.a.2. Maximization of Effluent Application – In irrigation systems designed for maximum effluent application, considerably higher loading rates may be used than are required for crop growth. Crops of lesser economic value may be chosen on the basis of their water tolerance, nutrient uptake, or tolerance to certain wastewater constituents. Greater amounts of percolation may also be planned for, as design liquid loading rates will exceed the plant requirements.

Forestland irrigation systems can also be designed for maximum effluent application. The greater suitability of forestland to cold-weather operation may result in a more evenly distributed loading schedule and can reduce storage requirements. However, the long-range nutrient removal capabilities of forest systems are generally less than for most field crops.

Forestland irrigation can result in the succession of water-tolerance species in place of naturally occurring vegetation. This occurrence should be considered in the environmental assessment.

D.1.a.3. Landscape Irrigation – Irrigation of turf, especially in recreational areas, such as parks and golf courses, requires special consideration. The condition of the turf is normally of primary importance, and application rates must be adjusted for this purpose. Public health considerations are also of great importance, with high degrees of treatment prior to application, including disinfection, normally being required. Additional measures, such as irrigation during off-hours, are often necessary.

D. 1. b. Application Techniques

Three application techniques are employed in irrigation systems (Figure 4):

- Spraying
- Ridge and furrow
- Flooding

Topography, soil conditions, weather conditions, agricultural practice, and economics are factors to be considered in technique selection. General design features for each technique are described in reference [125, 184].

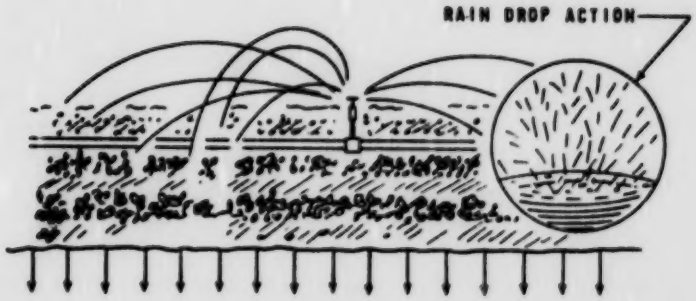
D. 1. b. 1. Spraying – Spraying involves the application of effluent above the ground either through nozzles or sprinkler heads. Other elements of the system include: pumps or a source of pressure, supply mains, laterals, and risers. Design of a system can be quite variable; it can be portable or permanent, moving or stationary. Spray systems are the most efficient for uniform flow distribution, but such systems are also generally the most expensive. High wind, a problem common to spray irrigation systems, adversely affects efficiency of distribution and can also spread aerosol mists. Hydraulic design factors for spraying systems are included in references [114, 115, 155].

D. 1. b. 2 Ridge and Furrow – Ridge and furrow irrigation is accomplished by gravity flow of effluent through furrows, from which it seeps into the ground. Utilization of this technique is generally restricted to relatively flat land, and extensive preparation of the ground is required. The operating cost is relatively low, and the technique is well suited to certain row crops. Uniformity of distribution, however, is fairly difficult to maintain unless the grading of the land is nearly perfect [184].

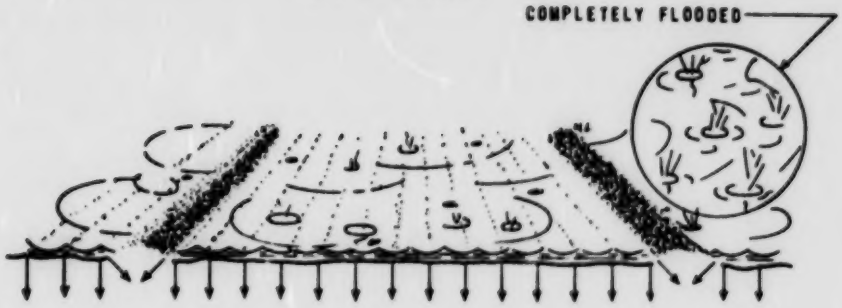
D. 1. b. 3. Flooding – Irrigation by flooding is accomplished by inundation of the land with several inches of effluent. Descriptions of the various flooding techniques are contained in Wastewater Treatment and Reuse by Land Application [125]. The choice of crop is critical because it must be able to withstand periods of inundation with the technique. The depth of applied effluent and period of flooding are dependent upon the characteristics of the soil and the crop grown.

D. 2. INFILTRATION-PERCOLATION

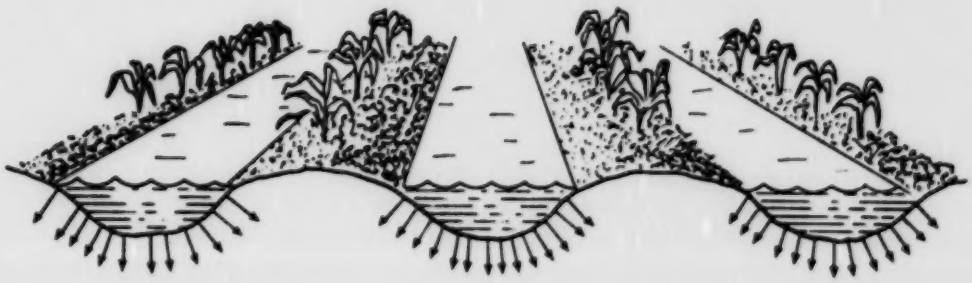
In this form of treatment, wastewater may be applied to the soil by spreading or spraying. Renovation is achieved as the effluent travels through the soil matrix by natural physical, chemical, and biological processes. Effluent is allowed to infiltrate at a relatively high rate, and consequently less land is required for the same volume than for the two other alternatives. The major



(a) SPRINKLER



(b) FLOODING



(c) RIDGE AND FURROW

Figure 4. Irrigation techniques

portion of the wastewater percolates to the groundwater, while most of the remainder is lost through evaporation.

Important criteria for site selection include: geologic conditions, soil conditions, and groundwater depth and movement. Because of the high rates of loading, the geologic conditions and status of the groundwater are relatively more important than in irrigation or overland flow systems.

Thomas recommends that a depth of 15 feet (4.55 m) from the surface to the natural groundwater be considered a minimum [166] , and Bouwer recommends that the groundwater recharge mound should not be allowed to rise closer to the soil surface than a distance of about 4 feet (1.22 m) [19]. Lesser depths may be suitable under special conditions; however, a lesser degree of renovation becomes much more probable. The use of an artificial drainage system, such as pumped withdrawal, should be considered as a means for increasing groundwater depths.

Well-drained soil is critical to the success of an infiltration-percolation system. Acceptable soils include sand, sandy loams, loamy sands, and gravels. Very coarse sand and gravel are not ideal because they allow wastewater to pass too rapidly through the first few feet where the major biological and chemical action takes place [125]. Consideration should be given to the infiltration surface, which may be planted, overlain with graded sand or gravel, or left plain. Seasonal variations in temperature and precipitation should also be considered in determining application rates.

D.2.a. Purpose of Infiltration-Percolation

Wastewater treatment systems employing infiltration-percolation may be designed for three purposes: groundwater recharge; recovery of renovated water, using wells or underdrains; and interception of renovated water by a surface water body.

D.2.a.1. Groundwater Recharge — In systems designed for this purpose, all of the infiltrated wastewater is allowed to percolate directly to the groundwater. A mound in the water table will be created under the infiltration area, consequently reducing the renovative distance. Groundwater recharge may be used for improving poor groundwater quality, for limiting salt-water intrusion, or merely as an efficient method for treatment and disposal of wastewater.

For the renovated water, the quality requirements for groundwater are given in the BPT document [3]. The potential for meeting these guidelines depends upon the soil characteristics, loading rates and cycles, management techniques, and wastewater characteristics (I-B.4).

D.2.a.2. Pumped Withdrawal — In cases in which the BPT requirements cannot be met or the groundwater is of poor quality, renovated water may be directly withdrawn from the zone of saturation for reuse. Additionally, pumping from wells, or a system of underdrains, can be used to reduce the extent of the recharge mound in the water table, thereby increasing renovation distance.

D. 2. a. 3. Interception by Surface Water – Infiltration-percolation systems may be designed for situations in which the renovated water moves vertically and laterally and is subsequently intercepted by a surface water body. This constitutes an indirect discharge to the surface water body.

D. 2. b. Application Techniques

Spreading and spraying are two application techniques that are suitable for infiltration-percolation. Factors which should be considered in the selection of the application technique include: soil conditions, topography, climate, and economics.

D. 2. b. 1. Spreading – Infiltration-percolation by means of spreading is perhaps the simplest of the land-application techniques. It is also the technique least affected by cold or wet weather. Several basins are normally used and periods of flooding are alternated with periods of drying. Application using the ridge and furrow technique has also been accomplished [125].

D. 2. b. 2. Spraying – Application of effluent at high rates employing spraying has been accomplished. High-rate spray irrigation systems, where the loading rate exceeds 4 inches (10. 2 cm) per week, are included in this category. Normally, vegetation is necessary to protect the surface of the soil and to preclude runoff. Hydrophytic or water-tolerant grasses are usually chosen. Spraying of forestland may also be considered for infiltration-percolation.

D. 3. OVERLAND FLOW

Wastewater treatment by this method has been practiced primarily by food-processing industries, but it appears quite suitable, under certain conditions, for municipal wastewater. It is nevertheless still in the experimental stage with regard to municipal systems in this country at this time.

Renovation is accomplished by physical, chemical, and biological means as wastewater flows through vegetation on a sloped surface. Wastewater is sprayed over the upper reaches of the slopes and a high percentage of the treated water is collected as runoff at the bottom of the slope, with the remainder being lost to evapotranspiration and percolation. Important criteria for site selection include: soil conditions, topography, and climate; with the most important being soil conditions. Soils with minimal infiltration capacity, such as heavy clays, clay loams, or soils underlain by impermeable lenses, are required for this method to be effective. Soils with good drainage characteristics are best suited for other land-application methods [125].

A mantle of 6 to 8 inches (15. 2 to 20. 3 cm) of good topsoil is recommended [130]. A sloping terrain is necessary to allow the applied wastewater to flow slowly over the soil surface to the runoff collection system. Slope distance is a function of the spray diameter, loading rate, and degree of renovation

required. The degree of slope depends on the existing topography and the economics of earthwork; however, slopes of 2 to 4 percent are preferred.

D.3.a. Purpose of Overland Flow

The purpose of the overland flow system, and the intended disposition of its renovated water, will affect both the site selection and the design of the system.

D.3.a.1. Discharge to Surface Waters — Collected runoff from most overland flow systems is discharged to surface waters. Renovated water is collected at the toe of the slope in cutoff ditches or by similar means and channeled to a monitoring point before being discharged. The proximity of the site to a receiving water body and the method of transmission of renovated water to the discharge point should be considered in the design of such a system.

For a surface water discharge the renovated water must meet the minimum of secondary treatment requirements or effluent limitations based on water-quality standards. As shown in Tables 4 and 12 (II-D), the system is capable of a high degree of treatment. To meet the fecal coliform standards, however, disinfection of the collected water may be necessary.

D.3.a.2. Reuse of Collected Runoff — Although largely untried, treated water from overland flow may be utilized by industry for irrigation or in recreational impoundments. Storage may be necessary if continuous use is not possible. Overland flow systems designed for this purpose may be desirable in certain water-short areas and at sites where transmission of runoff to a receiving surface water body is impractical or uneconomical.

D.3.b. Application Techniques

Spraying is the application technique used most commonly for overland flow systems. Flooding between borders has been used in Melbourne, Australia [76] but only for 6 months of the year. Factors that should be considered in the selection of the application technique include: topography, suspended solids in the wastewater, agricultural practices, and economics.

D.3.b.1. Spraying — Spraying is the only application technique presently practiced in this country. Wastewater is applied on the upper reaches of the slope and is allowed to flow downhill. Spraying may be accomplished by means of fixed sprinklers or rotating boom-type sprays.

D.3.b.2. Flooding — Application by flooding or other surface techniques in overland flow systems has not been demonstrated in this country, but it has been practiced successfully in Melbourne, Australia. If high concentrations of suspended solids are present, settling in the upper reaches may cause an odor problem. Because uniform distribution is critical, flooding may not be successful unless care is taken to produce an extremely smooth terrace with no cross slope.

D.4. COMBINATIONS OF TREATMENT TECHNIQUES

Wastewater treatment systems must often be designed to meet a wide variety of demands under an equally wide variety of conditions. Land application offers possibilities of various combinations of techniques that may be useful in the solution of a particular treatment problem. Combinations may include either several land-application techniques or land application together with in-plant treatment. Increased felxibility of the overall system and increased complexity of operation are side effects of treatment combinations which should be considered.

D.4.a. Combinations of Land-Application Techniques

Combinations of land-application techniques may be desirable when dealing with problems of differences in site characteristics (either within one large site or between a number of sites), seasonal weather variations, or impact minimization on a particular area. They may also be useful in adapting land application to present land use; for instance, using a portion of the wastewater to irrigate an existing golf course.

D.4.b. Combinations with In-Plant Treatment

Combinations of land application with in-plant treatment and receiving water discharge may be advantageous in certain situations, especially if operating costs of in-plant treatment are high. The most obvious advantages of this type of combination can be seen in cold-weather regions where large storage requirements may make land application an undesirable alternative. Partial in-plant treatment could be used prior to land application in summer months, with full in-plant treatment and surface water discharge used in the winter months [130]. Combinations for other purposes may be worth investigating. Stormwater storage or treatment systems may also be integrated into combined wastewater management systems.

D.5. COMPATIBILITY WITH SITE CHARACTERISTICS

The success of a land-application system will depend upon the compatibility of the selected treatment alternative to the project objectives, climate, and site characteristics. To ensure compatibility, it is necessary to reevaluate the alternative selection by proceeding stepwise through the flow chart. (Figure 1 in the Introduction), reviewing each consideration.

Section E

DESIGN CONSIDERATIONS

Design considerations will differ greatly depending on whether irrigation, infiltration-percolation, or overland flow is selected. The major considerations, which are discussed in this section, include:

- Loading rates
- Land requirements
- Crop selection
- Storage requirements
- Preapplication treatment requirements
- Management considerations
- Flexibility
- Design reliability

The key issues involved in delineation of these design factors are identified and discussed.

E.1. LOADING RATES

To determine what characteristics of the wastewater will be limiting, balances should be made for water, nitrogen, phosphorus, organic matter, or other constituents of abnormally high concentration (as determined under I-B.4). On the basis of those balances, a loading rate can be established for each parameter. Each loading rate should then be used in calculating the required land area and the critical loading rate is the one requiring the largest field area.

E.1.a. Liquid Loading/Water Balance

The elements considered in a water balance are:

- Effluent applied
- Precipitation
- Evapotranspiration

- Percolation
- Runoff

The interrelationships between the elements of the water balance for irrigation, infiltration-percolation, and overland flow are discussed in the following subsections.

Irrigation – For irrigation systems, the amount of effluent applied plus precipitation should equal the evapotranspiration plus a limited amount of percolation. In most cases, surface runoff from fields irrigated with municipal effluent will not be allowed or must be controlled. The water balance will be:

$$\text{Design precipitation} + \text{Effluent applied} = \text{Evapotranspiration} + \text{Percolation} \qquad (2)$$

Seasonal variations in each of the above values should be taken into account. It is suggested that this be done by means of evaluating the water balance for each month as well as the annual balance. This method is illustrated in Example No. 1.

The value for design precipitation should be determined on the basis of a frequency analysis of wetter than normal years (I-C.2.a.1.). The wettest year in 10 is suggested as reasonable in most cases; however, it is prudent to check the water balance using the range of precipitation amounts that may be encountered. For purposes of evaluating monthly water balances, the design annual precipitation can often be distributed over the year by means of the average distribution, which is the average percentage of the total annual precipitation that occurs in each month. Again, the range of monthly values that may be encountered should be analyzed, especially for the months when the storage reservoir is full.

Evapotranspiration will also vary from month to month, however, the total for the year should be relatively constant. The amount of water lost to evapotranspiration each month should be entered in Equation 2.

Percolation includes that portion of the water, which after infiltration into the soil, flows through the root zone and eventually becomes part of the groundwater. The percolation rate used in the design should be determined on the basis of a number of factors (I-C.2.c.2.) including: soil characteristics, underlying geologic conditions, groundwater conditions, and the length of drying period required for satisfactory crop growth and wastewater renovation. The actual percolation rate will vary with soil temperature throughout the year; however, for design purposes, it is often possible to assume a constant rate.

When irrigating in arid climates, it is necessary to remove the salts that accumulate in the root zone as a result of evaporation. Some amount of percolation is necessary to accomplish this leaching. Ayers [7] has calculated the leaching requirements for various crops, depending upon crop tolerances (I-E.3.) and

total dissolved solids in the effluent. King and Hanks [75] have investigated the possibility of controlling the quality of return flows by varying the timing of irrigation applications and have developed a mathematical model that may prove valuable for situations in which TDS control is necessary.

EXAMPLE No. 1 – Determine the water balance for an irrigation system.

Assumptions

1. The design precipitation is for the wettest year in 10, with average monthly distribution.
2. Average monthly evapotranspiration rates are used; these are derived from the Agricultural Extension Service.
3. The site is mostly flat and level.
4. The soil is a deep sandy loam.
5. The crop is coastal Bermuda grass.
6. Storage will be provided for a portion of the flow during the winter.
7. Runoff, if any, will be collected and stored for reapplication.

Solution – Computations and results are presented in Table 5.

1. From a curve similar to Figure 2, the design annual precipitation for the wettest year in 10 is found to be 13 in. (33.0 cm). The precipitation is distributed over the year on the basis of average distribution and entered into Column 5 in Table 5.
2. Average monthly evapotranspiration rates are entered into Table 5 in Column 2.
3. On the basis of soil and geological evaluations, the design percolation rate is determined to be 10 in./mo (25 cm/mo) and entered into Column 3. The total water losses are determined by adding Columns 2 and 3 and entering the sum in Column 4.
4. Using Equation 2, the design precipitation is subtracted from the total water losses to determine the amount of effluent to be applied (Column 6).

Table 5. WATER BALANCE FOR EXAMPLE NO. 1

	Water losses			Water applied		
Month (1)	Evapo-transpiration, in. (2)	Percolation, in. (3)	Total, in. (2) + (3) = (4)	Precipitation, in. (5)	Effluent applied, in. (4) - (5) = (6)	Total, in. (5) + (6) = (7)
Jan	0.7	10.0	10.7	2.3	8.4	10.7
Feb	1.5	10.0	11.5	2.3	9.2	11.5
Mar	3.1	10.0	13.1	2.1	11.0	13.1
Apr	3.9	10.0	13.9	1.6	12.3	13.9
May	5.2	10.0	15.2	0.4	14.8	15.2
Jun	6.5	10.0	16.5	0.2	16.3	16.5
Jul	7.0	10.0	17.0	0.1	16.9	17.0
Aug	6.5	10.0	16.5	Trace	16.5	16.5
Sep	4.4	10.0	14.4	0.2	14.2	14.4
Oct	3.9	10.0	13.9	0.6	13.3	13.9
Nov	1.5	10.0	11.5	1.0	10.5	11.5
Dec	0.8	10.0	10.8	2.2	8.6	10.8
Total annual	45.0	120.0	165.0	13.0	152.0	165.0

Note: 1 inch = 2.54 cm

Comments

1. The maximum application of effluent will be less than 4 in./wk (10 cm/wk) and will occur in July.
2. If the effluent available equals effluent applied on a yearly basis, then 152 in./yr divided by 12 months/yr equals 12.7 inches of effluent would be available each month (see Example No. 3).
3. Storage would be required for a portion of the flow for each month in which the effluent available exceeded the effluent applied. In this case, storage would be required from approximately mid November to mid April.
4. The annual liquid loading of 152 inches (386 cm) would place this land-application system above the normal loading range for irrigation of 24 to 96 in./yr (61 to 244 cm/yr).
5. The results obtained from this process would be utilized in the determination of land requirements (I-E.2.) and storage requirements (I-E.4.).

Infiltration-Percolation — The elements of the water balance for infiltration-percolation systems are the same as for irrigation (see Equation 2). Direct runoff is not designed into such systems.

For low-rate applications involving evaporation-percolation ponds, evaporation from the pond surface will be a significant factor. For these systems, the applied effluent should balance the net evaporation (total evaporation minus precipitation) plus the estimated percolation rate under saturated conditions. Saturated conditions should be used because normally the soil surface is constantly inundated, and the infiltration rate becomes significantly reduced over time. This reduced infiltration rate subsequently limits the movement of water through the soil.

For higher rate systems and systems with intermittent applications, percolation is the major factor, with evaporation accounting for 10 percent or less of the effluent applied. Precipitation is significant in humid climates and is analyzed in the same manner as irrigation, using a frequency analysis of the available data. In arid climates, the precipitation should not be omitted, because it often all occurs in a few winter months.

Overland Flow — Typical loading rates range from 0.25 to 0.7 in./day (0.64 to 1.78 cm/day) [125]. For year-round operation, the corresponding amount of effluent applied would range from 8 to 20 ft/yr (2.44 m to 6.10 m/yr). The water balance should be made mainly to determine the amount of runoff to be expected. The water balance equation for overland flow is:

$$\text{Design precipitation} + \text{Effluent applied} = \text{Evapotranspiration} + \text{Percolation} + \text{Runoff} \qquad (3)$$

Design precipitation and evapotranspiration values are determined in the same manner as for irrigation systems. Losses to percolation will generally be in the order of 0.1 in./day (0.3 cm/day) or less. Percolation rates should be estimated under saturated or nearly saturated conditions. The runoff rate can be determined as the known values are entered into Equation 3. A typical range of runoff values is from 40 percent (of the applied effluent plus precipitation) in the summer to 80 percent in the winter [32, 56, 85].

E.1.b. Nitrogen Mass Balance

A total nitrogen balance is almost as important as a water balance, because nitrate ions are mobile in the soil and can affect the quality of the receiving water. On an annual basis, the applied nitrogen must be accounted for in crop uptake, denitrification, volatilization, addition to groundwater or surface water, or storage in the soil.

E. 1. b. 1. Total Annual Load – The total nitrogen load is necessary because all forms – organic, ammonia, nitrate, and nitrite – interact in the soil. The total nitrogen loading will be:

$$N = 2.7CL \quad (4)$$

where

N = annual nitrogen loading, lb/acre/yr
C = total nitrogen concentration, mg/l
L = annual liquid loading, ft/yr

or:

$$N = 0.1CL \quad (5)$$

where

N = annual nitrogen loading kg/ha/yr
C = total nitrogen concentration, mg/l
L = annual liquid loading, cm/yr

E. 1. b. 2. Total Annual Crop Uptake – The nitrogen uptake of most crops has been determined from greenhouse and field studies using fresh water for irrigation. Typical uptake values are given in Table 6. It should be noted that nitrogen uptake values may be higher when wastewater is applied instead of fresh water only because more nitrogen is available.

For land-application systems, few nitrogen uptake values for crops currently exist. It is expected that definitive values will be established in the near future. Nitrogen uptakes for plants not listed in Table 6 can generally be obtained from Agricultural Extension Service agents.

When more than one crop per year is grown on one field, the total nitrogen uptake for the entire year should be determined. Nitrogen removal by crop uptake is a function of crop yield and requires the harvesting and physical removal of the crop to be effective.

E. 1. b. 3. Denitrification and Volatilization – The extent of denitrification and volatilization depends on the loading rate and characteristics of the wastewater to be applied, and the microbiological conditions in the active zones of the soil.

Volatilization of ammonia will not be significant for effluents with a pH less than 7 or for nitrified effluents. For irrigation systems, denitrification is generally

Table 6. TYPICAL VALUES OF CROP UPTAKES OF NITROGEN

Crop	Nitrogen uptake, lb/acre/yr	References
Alfalfa	155-220	54
Red clover	77-126	54, 1
Sweet clover	158	1
Coastal Bermuda grass	480-600	127
Corn	155	54
Cotton	66-100	1, 30
Fescue	275	1
Milo maize	81	1
Reed canary grass	226-359	32, 1
Soybeans	94-113	54, 1
Wheat	50-76	54, 1

Note: 1 lb/acre/yr = 1.12 kg/ha/yr

of minor importance, depending upon the soil, the application rate, and the crop. Hunt [67] suggests that denitrification may be a significant nitrogen removal mechanism for overland flow systems because observed removals cannot be accounted for solely by crop uptake.

For high-rate infiltration-percolation systems, denitrification is the only significant mechanism of nitrogen removal from the system. By managing the hydraulic loading cycle to create alternately anaerobic and aerobic conditions, Bouwer [20] obtained up to 80-percent nitrogen removal as a combined result of ammonia adsorption and denitrification during most of the period of inundation. Over a 4-year period the calculated removal was 30 percent at a loading rate of 21,000 lb/acre/yr (23,450 kg/ha/yr). Without special management techniques, overall nitrogen removal may only be 10 percent or less [82, 97].

E.1.b.4. Addition to Groundwater or Surface Water — The soil mantle cannot hold nitrogen indefinitely, although organic nitrogen can be stored in the soil to a certain extent. The ammonium and organic nitrogen is ultimately converted to nitrate nitrogen, which can leach out of the soil. Unless nitrogen is taken up by crops and physically removed by harvesting, or the nitrates are converted to nitrogen gas by denitrification, the nitrogen will appear eventually in the runoff or percolate.

E. 1. c. Phosphorus Mass Balance

Phosphorus is removed from percolating wastewater by fixation and chemical precipitation. For irrigation, the phosphorus loading will usually be well below the capacity of the soil to fix and precipitate the phosphorus. Typically, less than 20 percent of the phosphorus applied is utilized by the crop and the remainder stays in the topsoil [130]. Soil column tests are frequently conducted to determine the fixation capacities of the soil; however, the results of these tests should be used with caution because long-term behavior and the effects of time cannot be duplicated in a short-term test.

For overland flow systems, the removal mechanisms for phosphorus are crop uptake, microbial uptake, and fixation by the soil. Because only a small portion of the effluent applied infiltrates into the soil and crop uptake is small, removal efficiencies are generally low, ranging reportedly from 35 percent at Melbourne, Australia [76], to 50 percent at Ada, Oklahoma [164]. For infiltration-percolation systems, fixation and chemical precipitation in the soil are responsible for phosphorus removal. As with irrigation, the capacity of the soil to remove phosphorus can be estimated from laboratory tests. This capacity can be quite high even for sandy soils with relatively low fixation capacities. Bouwer [21] reports 95 percent removal after 200 feet (61.0 m) of travel at a loading of 21,000 lb/acre/yr (23,450 kg/ha/yr).

E. 1. d. Organic Loading Rates

The average daily organic loading rate should be calculated from the liquid loading rate and the BOD concentration of the applied effluent. Thomas [163, 165] has estimated that between 10 and 25 lb/acre/day (11.2 and 28.0 kg/ha/day) are needed to maintain a static organic-matter content in the soil. Additions of organic matter at these rates help to maintain the tilth of the soil, replenish the carbon oxidized by microorganisms, and would not be expected to pose problems of soil clogging. Higher loading rates can be managed, depending upon the type of system and the resting period.

Irrigation – Using the range of 10 to 25 lb/acre/day (11.2 to 28.0 kg/ha/day) of BOD as a reference, the addition of 2 lb/acre/day (2.2 kg/ha/day) or less from a typical secondary effluent applied for irrigation will certainly not pose a problem of organic buildup in the soil. When primary effluent is used, organic loading rates may exceed 20 lb/acre/day (22.4 kg/ha/day) without causing problems [125].

Resting periods are standard with most irrigation techniques. These periods give soil bacteria time to break down organic matter and allow the water to drain from the top few inches. Aerobic conditions are thus restored as air penetrates into the soil. Resting periods for spray irrigation may range from less than a day to 14 days, with 5 to 10 days being common [65]. The resting period for surface irrigation can be as long as 6 weeks but is usually between 6 and 14 days [130]. The resting period depends upon the crop, the number of individual plots in the rotation cycle, and management considerations.

Infiltration-Percolation – Organic loading is an important criterion for infiltration systems, because it is related to the development of anaerobic conditions. To meet the oxygen demand created by the decomposing organic and nitrogenous material, an intermittent loading schedule is required. This allows air to penetrate the soil and supplies oxygen to the bacteria that oxidize the organic matter and ammonium.

Bouwer [20] reports BOD loadings of 45 lb/acre/day (50.4 kg/ha/day) using secondary effluent and a liquid loading of 300 ft/yr (91.4 m/yr). The application cycle consisted of loading for 14 days, followed by 10 days of resting in the summer and 20 days of resting in the winter. Additional information on loading rates and resting periods may be found in Wastewater Treatment and Reuse by Land Application [125].

Industrial wastes have been loaded successfully on infiltration-percolation systems at 150 lb/acre/day (168.1 kg/ha/day) of BOD [125]. Thomas [165] reports BOD loadings of 166 lb/acre/day (186.1 kg/ha/day) of septic tank effluent with organic residues in the soil of less than 16 lb/acre/day (17.9 kg/ha/day). He reports that this high loading can be used on sandy soils for extended periods without resulting in the detrimental accumulation of organic residues in the soil, and that during a 10-year period of operation, organic residues in the soil would increase by no more than 3 percent of the weight of the top 6 inches (15.2 cm) of good mineral soil.

Overland Flow – The limits of organic loading for the overland flow method are at present undefined. High-strength organic wastes have been treated at BOD loadings of 40 to 100 lb/acre/day (44.8 to 112 kg/ha/day) [125]. Kirby [76] reports that the grass filtration system at Melbourne, Australia, is loaded at 68 lb/acre/day (76.2 kg/ha/day) of BOD with a 96-percent removal efficiency. Thomas [164] reports 92- to 95-percent removal of BOD at loadings of 14 to 18 lb/acre/day (15.7 to 20.2 kg/ha/day) with higher removals observed at the higher organic and liquid loading rates. Higher organic loading rates can probably be used.

Because the organic matter is filtered out by the grass, litter, and topsoil, and is reduced by biological oxidation, the organic content of the soil is not affected substantially.

However, high organic loadings may limit treatment efficiency as a result of the combination of effects of BOD and liquid loading on the creation of anaerobic conditions. Because overland flow functions in a manner similar to a trickling filter, intermittent dosing has been used successfully with 6 to 8 hours on and 6 to 18 hours off [125]. In Australia, continuous dosing has been used for up to 6 months with the remaining 6 months for resting [76]. Provisions should be made to vary the resting period, depending on climatic conditions, harvesting requirements, and insect control considerations.

E.1.e. Loadings of Other Constituents — Suspended and dissolved solids are the two major types of remaining constituents of interest for land-application systems. Effects of these constituents vary with the type of system.

Large concentrations of suspended solids can clog the components of the distribution system and reduce the infiltration rate into the soil. As a result, pre-application treatment for suspended solids reduction may be necessary (see I-E.5). The organic fraction of the suspended solids when applied to the land is degraded as described previously for BOD. The inorganic or mineral fraction of the suspended solids is filtered out and becomes incorporated into the soil.

Dissolved solids in wastewater may be classified by the extent of their movement through the soil. Chlorides, sulfates, nitrates, and bicarbonates move relatively easily through most soils with the percolating water. These compounds can therefore be leached with applications of wastewater or with rainfall.

Other dissolved solids, such as sodium, potassium, calcium, and magnesium, are exchangeable and react within the soil so that their concentrations in the percolating water will change with depth. Other constituents, such as heavy metals, boron, fluoride, and other trace elements or pesticides, may or may not be removed by the soil matrix, depending upon such factors as clay content, soil pH, and soil chemical balance. On the basis of the analysis of wastewater characteristics (I.B.4) and the BPT requirements for groundwater protection, any constituent suspected of having a limiting loading rate should be identified. The loading rate of that constituent should then be calculated, and the resulting land requirement (as discussed next under I-E.2.a.) should be compared to the areas calculated for liquid or nitrogen loadings.

Irrigation — Different wastewater constituents may be limiting in irrigation design, depending on the objectives, crops, and climate involved. If crop yield or landscape enhancement is the major objective, Water Quality Criteria [176] and Chapman [27] should be consulted to determine the optimum levels of various elements for the particular plant and the possible effects of levels other than optimum on plant quality and yield. Local farm advisers and Agricultural Extension Service agents may be contacted for evaluation of anticipated special problems.

When maximum effluent application is practiced, the crop selected should be able to tolerate the particular wastewater at the loadings intended. The concentrations of wastewater components will not usually limit the design loadings, provided there is no probability of groundwater contamination by the percolate. If such a danger exists, provisions such as underdrains should be considered.

Infiltration-Percolation — Because of the high liquid loadings involved, the loadings of constituents in even low concentrations can be considerable. Soils used for infiltration-percolation usually have little capacity to retain soluble salts and may retain only portions of the heavy metals and phosphorus. The concentrations of constituents, such as sodium, chloride, or sulfate, allowable in the renovated water may affect the design by requiring special controls on the use of the renovated water.

The TDS and hardness of the percolating water may increase as a result of a lowering of the pH of the water. Reid [132] reports a TDS increase of 11 percent and a hardness increase of 30 percent at the 8-foot (2.4-m) depth at Whittier Narrows, California. It has been suggested that the pH drop from about 7.0 to approximately 6.6 has been caused by nitrification [132]. Bouwer [20] reports only a 4 percent increase in TDS, which he related to evaporation (3 percent) and pH drop (1 percent). A pH drop, whether caused by nitrification or carbon dioxide generated during BOD oxidation, can result in dissolution of calcium carbonate, resulting in an increase in hardness and TDS.

Overland Flow – Because a discharge of effluent that must meet or exceed treatment criteria is usually involved in an overland flow system, the removal of various wastewater constituents is important. The grass and litter in an overland flow system serve to filter out suspended solids but have little effect on dissolved solids. The loadings of most inorganic constituents will not limit the design of overland flow systems, although some increase in TDS may occur if evapotranspiration exceeds precipitation.

E.2. LAND REQUIREMENTS

The total land area required includes allowances for treatment; buffer zones; storage, if necessary; sites for buildings, roads, and ditches; and land for emergencies or future expansion. If any on-site preapplication treatment, such as screening, sedimentation, biological or chemical treatment, or disinfection, is required, an allowance must be made for the land needed for these facilities. The computation of land requirements is illustrated in Example 2.

E.2.a. Field Area Requirement – The field area is that portion of the land-application site in which the treatment process actually takes place. It is determined by comparing the areas and is calculated on the basis of acceptable loading rates for each different loading parameter (liquid, nitrogen, phosphorus, organic, or others, based on BPT requirements for groundwater protection) and then selecting the largest area. The loading parameter that corresponds to the largest field area requirement would then be the critical loading parameter. The field area requirement based on the liquid loading rate is calculated by:

$$\text{Field Area (acres)} = \frac{1,118Q}{L} \qquad (6)$$

where

Q = flowrate, mgd

L = annual liquid loading, ft/yr

or:

$$\text{Field Area (ha)} = \frac{315.6Q}{L} \qquad (7)$$

where

Q = flowrate, l/s

L = annual liquid loading, cm/yr

For loadings of constituents such as nitrogen the field area requirement is calculated by:

$$\text{Field Area (acres)} = \frac{3,040CQ}{L_c} \qquad (8)$$

where

C = concentration of constituent, mg/l

Q = flowrate, mgd

L_c = loading rate of constituent, lb/acre/yr

or:

$$\text{Field Area (ha)} = \frac{31.56CQ}{L_c} \qquad (9)$$

where

C = concentration of constituent, mg/l

Q = flowrate, l/s

L_c = loading rate of constituent, kg/ha/yr

Once the field area has been determined and the critical loading rate has been identified, the resulting new loading rates for the other loading parameters should be computed.

A distinction should be made between field area and wetted area. Field area represents the area of the treatment system. The term wetted area refers to the area to which liquid is directly applied, either the area covered by the diameter of the spray or the area inundated by surface application. The significance of this difference varies with the treatment method.

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Irrigation — For spray irrigation, the wetted area may vary from 75 to 100 percent of the field area [131]. The percentage will depend upon the shapes of the fields, the sprinkler discharge patterns, and the degree of spray overlap. The highest ratio of wetted area to field area (0.95-0.99) occurs with flood and ridge and furrow systems.

Infiltration-Percolation — The wetted area should be nearly equal to the field area for most infiltration-percolation systems. For constructed spreading basins, considerable land may be lost in side slopes of the basin levees.

Overland Flow — Terminology for overland flow hydraulic loadings and acreages has not been standardized. Loadings are most often reported in inches per day applied to the total field area. Field area represents the sum of the area under sprays and the runoff area. The wetted area (area under sprays) is significantly less than the field area for current designs using spray application.

Thomas [164] reports a wetted area of 25 percent of the field area, while wetted areas of 40 to 45 percent of field areas have been reported for industrial systems [125]. It should be noted that more than 25 percent of the land in the Paris, Texas, overland flow system does not function as either wetted area or runoff area but is undeveloped [56].

The length of the downhill slope beyond the spray perimeter will vary with the climate, degree of treatment required, and the wastewater characteristics. Thomas [164] reports 88 feet for comminuted domestic wastewater in Ada, Oklahoma, with corresponding BOD removal efficiencies of 92 to 95 percent. Gilde [56] reports that 95 feet (29.0 m) is adequate and 50 feet (15.2 m) is the minimum for cannery wastewater with BOD removal efficiencies greater than 99 percent. A typical range would be one to two spray diameters beyond the spray perimeter.

E.2.b. Buffer Zone Allowance

Although there is little actual data concerning aerosols, there is considerable concern about the effects of aerosol-borne pathogens. Therefore, application of effluent by spraying may require buffer zones or other measures to ensure that aerosols are contained on the site. Buffer zones ranging from 50 to 200 feet (15.2 to 61.0 m) wide have been reported [125], although requirements for even larger buffer zones may exist. The size of the buffer zone that may be required is dependent on a number of factors, and will generally be controlled by the cognizant public health authority (I-F.2.d).

E.2.c. Land for Storage

Irrigation and overland flow systems will generally require off-season or winter storage. Storage may also be useful to equalize flowrates or to provide emergency backup. The land required for storage lagoons or pond may be considerable, especially in the northern states. Even in semiarid Abilene, Texas, 18 percent of the 2,019 acre (817 ha) irrigation farm is used for storage ponds [125].

Infiltration-percolation systems incorporating spreading basins can usually operate throughout the year, if the limiting loading rate was established for winter conditions.

E.2.e. Land for Future Expansion or Emergencies

Area for potential future expansion of a land-application system should be considered in the planning stage. If it is known that the adjacent land is planned for development and will be unavailable for future use, the system should not be referred to as a long-term solution. Often, it is prudent to obtain excess land for emergency use. Such things as excessive rainfall, breakdown of preapplication treatment operations, or natural disasters would constitute emergencies.

EXAMPLE No. 2 – Calculate the land requirements for a one mgd (43.8 l/s) irrigation system.

Assumptions

1. The design liquid loading rate is 152 in./yr (386 cm/yr) from Example No. 1, or 12.67 ft/yr (3.86 m/yr).

2. On the basis of the nitrogen balance, the nitrogen loading rate is determined to be 650 lb/acre/yr (740 kg/ha/yr). The average total nitrogen concentration in the effluent from preapplication treatment is 18 mg/l.

3. Concentrations of TDS and boron, and the SAR, are within an acceptable range.

4. A buffer zone of 150 feet (45.7 m) is required around the perimeter of the site.

5. A 145 acre-foot (179,000 cu m) storage reservoir (from Example No. 3) of 10 feet (3.05 m) average depth is included on the site. A dike of 50 feet (15.2 m) average width surrounds the reservoir.

6. A total of 4 acres (1.6 ha) is required for buildings, roads, ditches, and other miscellaneous items.

7. Preapplication treatment facilities exist off-site.

Solution

1. The field area required, based on the liquid loading rate is computed from Equation 6:

$$\text{Field area} = \frac{1,118 \times 1 \text{ mgd}}{12.67 \text{ ft/yr}} = 88.3 \text{ acres (35.7 ha)}$$

2. The field area required, based on the nitrogen loading rate, is computed from Equation 8:

$$\text{Field area} = \frac{3,040 \times 18 \text{ mg/l} \times 1 \text{ mgd}}{650 \text{ lb/acre/yr}} = 84.2 \text{ acres (34.0 ha)}$$

A comparison of the two field area requirements shows that the liquid loading rate is controlling; therefore the actual field area required is 88.3 acres (35.7 ha).

3. The area required for storage is:

$$\text{Area of reservoir} = \frac{145 \text{ acre-ft}}{10 \text{ ft}} = 14.5 \text{ acres (5.9 ha)}$$

Assuming that the reservoir is rectangular with sides of 1,000 and 650 feet (305 and 198 m), the area required for the dike is approximately 4 acres (1.6 ha). The total area required for storage is then 18.5 acres (7.5 ha).

4. The subtotal of the area required is:

Total Field Area	88.3
Storage	18.5
Buildings, roads, ditches, etc.	4.0
	110.8 acres (44.8 ha)

Assuming that this area is rectangular with sides of 3,000 and 1,600 feet (914 and 488 m), the area required for the buffer zone is approximately 34 acres (13.8 ha). The total area required for the system is then approximately 145 acres (59 ha).

Comments

1. The result of this process is only an approximation of the total land requirements. A more detailed analysis would require that a preliminary layout or site plan be made so that topographic irregularities and irregularities in the shape of the land parcel could be taken into account.

2. In this example, a factor of safety was not applied to the calculation of field area, nor was extra land included for future expansion or emergencies.

E.3. CROP SELECTION

Proper crop selection is of great importance in the design of irrigation systems, and to a lesser degree, of overland flow systems. It may also be of importance for infiltration-percolation systems in which vegetation is grown on the infiltration surface. Factors that should be considered include: (1) relationship to critical loading parameter, (2) public health regulations, (3) ease of cultivation and harvesting, and (4) the length of the growing season. The four general classes of crops that may be considered are:

- Perennials (forage or fruit crops)
- Annuals (field crops)
- Landscape vegetation
- Forest vegetation

For irrigation systems from which maximum crop yields are desired, the crops considered should be indigenous to the area. Any exceptions to this recommendation should have a sound agronomic basis. For high-rate systems in which water tolerance of the vegetation is necessary, plants that are not indigenous to the area may be grown successfully. In any case, the plants should be compatible with the climate and growing season.

E.3.a. Relationship to Critical Loading Parameter

Loading rates developed in the previous section should be related to the tolerances and uptake capacities of the intended crops. Compatibility of the loading rates with the potential crop is important to ensure both the survival of the crop and the efficiency of wastewater renovation. In many cases, crop selection will be dependent on a combination of loading parameters, including (1) water requirement and tolerance, (2) nutrient requirements, tolerances, and removal capability, and (3) sensitivity to various inorganic ions.

Water Requirement and Tolerance – Potential crops may be selected on the basis of their suitability to the hydraulic conditions that will exist. The objective is to find a crop able to withstand wetter-than-normal conditions and a soil that is frequently saturated. This may be the case particularly in overland flow and infiltration-percolation systems. The soil characteristics, particularly as related to the infiltration and percolation capacity, will greatly affect the ability of the potential crop to withstand these conditions. Consultation with Agricultural Extension Service representatives, agronomists, or local farmers may be necessary to determine crop tolerances. In cases in which crop selection is based on other criteria, the liquid loading rate may require adjustment on the basis of the water requirement of the chosen crop.

Nutrient Requirements, Tolerances, and Removal Capabilities – Frequently, a crop may be selected because of its removal capacity for essential nutrients, particularly nitrogen and phosphorus. Although nutrient removal through crop uptake and subsequent harvesting is most effective in irrigation systems, it is also of significance in overland flow systems. If required, removal capacities for many specific elements, such as boron, zinc, and copper, may be found in Reed [130] for agricultural crops and Sopper [148, 150] for trees. Typical crop uptake values of nitrogen are shown for a number of selected crops in Table 6.

Potential adverse effects on crops from high concentrations of nutrients should also be considered, particularly when the quality of the crop is of great importance. Excess nitrogen, for example, may cause excessive plant height, late maturation of fruit, and other problems in plants such as grapes [130]. Consultation by the engineer with agronomists or Agricultural Extension Service representatives may be necessary to determine nutrient requirements and tolerances, including seasonal variations.

Sensitivity to Inorganic Ions – Crop selection must often be based on tolerance to the various inorganic ions present in the applied wastewater or to those ions that may build up in the soil after a number of years. Toxic levels of boron and high salinity are the most common problems. The long-term buildup of various heavy metals to toxic levels should be considered. The reduced response in terms of percent yield decrement for various crops in arid and semiarid climates to conductivity levels is shown in Tables 7 and 8. Additional data on tolerances of various crops to certain elements and descriptions of toxic effects may be found in Chapman [27] and references [1, 110, 125, 130, 176]. Suggested tolerance levels for heavy metals for various crops may be found in Melsted [99].

E.3.b. Public Health Regulations

Various state public health regulations exist with regard to: (1) the types of crops that may be irrigated with wastewater; (2) the degree of preapplication treatment required for certain types of crops; and (3) the methods of application that may be employed. As of 1972, at least 17 states had such regulations [156], which vary widely in several respects. Generally, however, most states prohibit the use of untreated sewage or primary effluent on vegetables grown for human consumption, while some states allow irrigation of vegetables with highly treated, oxidized, and disinfected effluent [125]. Contradicting regulations exist for the irrigation of pasturelands, recreational lands, and other areas [160]. State public health officials or other applicable authorities such as the FDA should be consulted for existing regulations and guidelines. The literature review of public health effects by Sepp [143] may be helpful to the engineer, particularly in states in which regulations are incomplete or do not exist.

E.3.c. Ease of Cultivation and Harvesting

The ease of cultivation and harvesting of the selected crop may be of importance, particularly for systems in which operation is to remain as simple as possible.

Table 7. YIELD DECREMENT TO BE EXPECTED FOR FIELD CROPS DUE TO SALINITY OF IRRIGATION WATER WHEN COMMON SURFACE METHODS ARE USED[a]

	0%			10%			25%			50%			Maximum
Crop	ECe[b]	ECw[b]	TDS[b]	ECe	ECw	TDS	ECe	ECw	TDS	ECe	ECw	TDS	ECdw[c]
Barley	8	5.3	3,392	12	8	5,120	16	10.7	6,848	18	12	7,680	44
Sugarbeets	6.7[d]	4.5	2,880	10[d]	6.7	4,288	13	8.7	5,568	16	10.7	6,848	42
Cotton	6.7	4.5	2,880	10	6.7	4,288	13	8	5,120	16	10.7	6,848	42
Safflower	5.3	3.5	2,240	8	5.3	3,392	11	7.3	4,672	14	9	5,120	28
Wheat	4.7[d]	3.1	1,984	7[d]	4.7	3,008	10	6.7	4,288	14	9.3	5,952	40
Sorghum	4	2.7	1,728	6	4	2,560	9	6	3,840	12	8	5,120	36
Soybean	5.7	3.8	1,600	5.5	3.7	3,368	7	4.7	3,008	9	6	3,840	36
Soybeans	2.7	1.8	1,152	4	2.7	1,728	5.5	3.7	2,368	8	6	3,840	36
Rice (paddy)	3.0	2.0	1,408	5	3.3	2,112	6	4	2,560	8	5.3	3,392	24
Corn	3.3	2.2	1,408	5	3.3	2,112	6	4	2,560	7	4.7	3,008	18
Broadbeans	3.3	1.5	960	3.5	2.3	1,472	4.5	3	1,920	6.5	4.3	2,752	18
Flax	3	1.3	832	3	3	1,280	4.5	3	1,920	6.5	4.3	2,752	18
Beans (field)	1	.7	448	1.5	1	640	2	1.3	832	3.5	2.3	1,472	12

a. From Reference [7].

b. ECe means electrical conductivity of saturation extract in millimhos per centimeter (mmho/cm); ECw means electrical conductivity of irrigation water (in mmho/cm). TDS in mg/L = ECw x 640.

c. ECdw shows maximum concentration of salts in drainage water permissible for growth. Use to calculate leaching requirement (LR = ECw/ECdw x 100 = %) to maintain needed ECe in active root area; Leaching Requirement (LR) means that fraction of the irrigation water that must be leached through the active root zone to control soil salinity at a specified level.

NOTE: Conversion from ECe to ECw assumes a three-fold concentration of salinity in soil solution (ECsw) in the more active part of the root zone due to evapotranspiration. ECw x 3 = ECsw; ECsw ÷ 2 = ECe.

d. Tolerance during germination (beets) or early seedling stage (wheat, barley) is limited to ECe about 4 mmho/cm.

Because the soil may often be saturated, the operation of farm machinery may be difficult or may cause excessive soil compaction, necessitating the selection of a crop requiring little field maintenance. Selection of a perennial crop over an annual crop to avoid annual field preparation and planting may be worth examining.

E.3.d. Length of Growing Season

The length of the growing season should be considered for potential crops, along with seasonal variations in water requirements, and nutrient uptake. Storage

Table 8. YIELD DECREMENT TO BE EXPECTED FOR FORAGE CROPS DUE TO SALINITY OF IRRIGATION WATER[a]

Crop	0%			10%			25%			50%			Maximum
	ECe[b]	ECw	TDS	ECe	ECw	TDS	ECe	ECw	TDS	ECe	ECw	TDS	ECdw
Bermuda Grass	6.9	4.6	3,712	12	8.9	5,568	18	10.9	6,848	18	12	7,680	44
Tall Wheat Grass	7.8	4.6	5,120	11	7.8	4,672	15	10	6,400	18	13	7,680	44
Crested Wh. Grass	4	2.7	1,728	6	4	2,560	11	7.8	4,672	18	12	7,680	44
Tall Fescue	4.7	3.1	1,984	7	4.7	3,008	10.5	7	4,480	14.6	9.7	7,296	43
Barley (hay)	5.3	3.6	2,560	8	5.3	3,392	11	7.8	4,672	12.6	8	5,760	38
Perennial Rye	5.9	3.6	2,560	8	5.3	3,392	10	6.7	4,288	13	8.7	5,568	36
Harding Grass	5.3	3.6	2,560	8	5.3	3,392	10	6.7	4,288	13	8.7	5,568	36
Birdsfoot Trefoil	4	2.7	1,728	6	4	2,560	8	5.9	3,392	10	6.7	4,288	29
Beardless Wild Rye	2.7	1.8	1,152	4	2.7	1,728	7	4.7	3,008	11	7.3	4,672	29
Alkali	2	1.3	832	3	2	1,280	5	3.3	2,112	8	5.3	3,392	25
Orchard Grass	1.7	1.1	704	2.5	1.7	1,088	4.5	3	1,920	8	5.3	3,392	24
Meadow Foxtail	1.3	.9	576	2	1.3	832	3.5	2.3	1,472	6.5	4.3	2,752	24
Clover	1.3	.9	576	2	1.3	832	3.5	1.7	1,088	6	3.7	1,728	16

a. From Reference [7].

b. For explanation of abbreviations, see Table 7.

requirements and renovation efficiency at certain times of the year will be affected by the choice. The advantages of perennials, which have fully developed root systems at the beginning of the growing season, should be compared to the advantages of annual crops that may have higher yields or economic return. Cultivation of more than one annual crop per year may be possible.

E.3.e. Landscape Requirements

The irrigation of landscape vegetation is a special case in which the vegetation may already exist, or the choice may be limited to a few species of a particular type. The most common type of vegetation is grass, especially for parks and golf courses, where the condition of the turf is usually more important than the renovation of wastewater. In cases in which landscape vegetation is among the crop options, the reduction in the use of potable water and aesthetic and recreational advantages should be balanced against the potential increased preapplication treatment requirements and loading rate restrictions.

E.3.f. Forestland

Forests offer another crop option that requires special consideration. Most commonly, existing forestlands can be used; however, new forest areas may be

established, with species selected on the basis of their suitability to land application. General information on the use of forestlands for land application is contained in Cunningham [31] and Kaslowski [74]. Information on nutrient uptake, growth responses, and general suitability is available for a limited number of tree species in references [1, 130, 148].

E.4. STORAGE REQUIREMENTS

In almost all land-application systems, storage facilities will be required. Required capacities may range from less than one day's storage to 6 months'. The primary considerations in determining storage capacity are the local climate and the design period of operation; however, storage for system backup and flow equalization should also be considered. The possibility of a secondary use of the stored wastewater should be investigated.

E.4.a. Length of Operating Season and Climate

Most often, the storage requirements will be based on the period of operation and the climate. Three different conditions can be encountered that necessitate storage:

- Winter weather requiring cessation of operation
- Precipitation requiring the temporary reduction or cessation of application
- Winter weather requiring reduction of winter application rates

Generally, the most convenient method of determining the storage requirement is by means of an extension of the monthly water balance (I.E.1.a.). This method is illustrated in Example 3 for a hypothetical system in which a portion of the flow must be stored during the winter months when application rates are reduced.

When cessation of operation resulting from winter weather is expected, storage requirements should be based on the maximum expected period of nonoperation. The maximum period should be based on a frequency analysis of historical winter weather data. Frost dates, periods of frozen ground conditions, and snow cover should also be considered.

Temporary storage of wastewater may often be necessary when large amounts of precipitation prohibit normal application rates, because of the danger of unwanted runoff, or the effects of hydraulic overloading on crops and renovation efficiencies. The system should be evaluated to determine if excessive precipitation can be retained on the fields or if application should be ceased. Precipitation data should then be analyzed to determine the frequency of conditions requiring temporary reduction or cessation of wastewater application and subsequent storage requirements.

In cases where reduced application rates are necessary for the winter season, an economic trade-off can be made between partial storage in winter versus acquiring more land for winter application. For infiltration-percolation systems, cold weather may require only a reduction in the application rate (I-E.2.c.).

In calculations of storage requirements, it may often be necessary to assume a greater amount of precipitation than was assumed for the liquid loading evaluation (I-E.1.). The amount of precipitation that must be assumed will depend to a large extent on the degree of reliability required for the particular system and the potential effects of reaching or exceeding the storage capacity in any given year. In some cases, it may be prudent to apply a factor-of-safety to the storage capacity (I-E.9.e.).

EXAMPLE No. 3 – Calculate the storage capacity requirements for a one mgd (43.8 l/s) irrigation system.

Assumptions

1. The design precipitation is the wettest year in 50, with average monthly distribution.

2. The total monthly water losses, including evapotranspiration and design percolation are the same as in Example No. 1.

3. The actual field area is 88.3 acres (35.7 ha) (from Example No. 2).

4. The design year begins in October, at which time the storage reservoir is empty.

5. The flow of 1 mgd (43.8 l/s) is constant throughout the year.

Solution – The calculation of storage requirements per acre of field area is shown in Table 9.

1. The effluent available per month is:

$$\text{Eff. available} = \frac{1 \text{ mgd} \times 30.4 \text{ day/mo} \times 36.8 \text{ acre-in./mg}}{88.3 \text{ acre}}$$

$$= 12.7 \text{ in./mo (32.3 cm/mo)}$$

which is entered into Column 2 of Table 9.

2. From a curve similar to Figure 2, the design annual precipitation for the wettest year in 50 is found to be 17.0 in. (43.2 cm). The precipitation is distributed over the year on the basis of average distribution and entered into Column 3.

Table 9. CALCULATION OF STORAGE VOLUME REQUIREMENTS PER ACRE OF FIELD AREA FOR EXAMPLE NO. 3

Month (1)	Effluent available, in. (2)	Precipitation, in. (3)	Total, in. (2) + (3) = (4)	Water losses, in. (5)	ΔStorage, in. (4) - (5) = (6)	Total storage, in. (7)
Oct	12.7	0.8	13.5	13.9	-0.4	0
Nov	12.7	1.3	14.0	11.5	2.5	2.5
Dec	12.7	2.9	15.6	10.8	4.8	7.3
Jan	12.7	3.0	15.7	10.7	5.0	12.3
Feb	12.7	3.0	15.7	11.5	4.2	16.5
Mar	12.7	2.7	15.4	13.1	2.3	18.8
Apr	12.7	2.1	14.8	13.9	0.9	19.7
May	12.7	0.5	13.2	15.2	-2.0	17.7
Jun	12.7	0.3	13.0	16.5	-3.5	14.2
Jul	12.7	0.1	12.8	17.0	-4.2	10.0
Aug	12.7	Trace	12.7	16.5	-3.8	6.2
Sep	12.7	0.3	13.0	14.4	-1.4	4.8
Oct	12.7	0.8	13.5	13.9	-0.4	4.4

Note: 1 inch = 2.54 cm.

3. The total monthly water losses are taken from Column 4 of Table 5 and entered into Column 5 of Table 9.

4. The monthly change in storage volume (Column 6 of Table 9) is computed by subtracting Column 5 from Column 4.

5. The total accumulated storage (Column 7) is computed by summing the monthly change in storage.

6. The maximum storage requirement is found to be 19.7 in. (50.0 cm) occurring in the month of April. This is converted to total storage volume by:

$$\text{Storage vol} = \frac{19.7 \text{ in.} \times 88.3 \text{ acre}}{12 \text{ in./ft}} = 145 \text{ acre ft (179,000 cu m)}$$

Comments

1. In this example, it was assumed that the reservoir was empty at the beginning of the winter season. In actual practice, this may often not be the case. Consequently, it may be wise to assume an initial amount of storage, or to assume back-to-back wetter-than-normal years if storage volume is critical.

2. In some cases, it may be possible to ensure that the stored water is completely withdrawn during the summer season for the storage design year. This may be possible if design application rates are chosen conservatively or if extra land is included for emergencies.

3. For example purposes, the calculation of storage requirements was conducted separately from the calculation of the water balance (Example No. 1). It may often be convenient to combine these calculations.

4. In this example, a factor of safety was not applied to the total storage volume.

E.4.b. For System Backup

Storage requirements may be necessary for system backup or to preclude bypassing of wastewater during periods of mechanical failure, maintenance, power failure, or other problems. Storage for this purpose will add to the reliability and flexibility of the system. For systems in which storage requirements are otherwise small, requirements for system backup may be of significance. Consideration should be given to provision for gravity flow to storage backup facilities under conditions of power failure. For additional considerations, the technical bulletin on reliability [35] should be consulted.

E.4.c. For Flow Equalization

Storage of wastewater for flow equalization may be necessary if daily fluctuations in flow are significant and hinder the proper application of wastewater. The sustained peak flow (I-B.1.) should be analyzed to determine the required storage. Consideration of storage requirements for this purpose is normally necessary only for systems for which no other storage requirements exist. In most other cases, daily fluctuations in flow are easily absorbed in the larger storage capacities required for other purposes.

E.4.d. Secondary Uses of Stored Wastewater

After storage requirements have been determined, the possibility of secondary use of the stored wastewater (prior to land application) should be investigated. The areas of potential use are highly dependent on the quality of the stored wastewater and the degree of preapplication treatment it has received. Perhaps the most noteworthy of the potential uses is as industrial cooling water.

E.5. PREAPPLICATION TREATMENT REQUIREMENTS

The degree of treatment required prior to land application will depend upon a number of factors, including: (1) public health regulations, (2) the loading rate with respect to critical wastewater characteristics, and (3) the desired effectiveness and dependability of the physical equipment. It is conceivable for a system in which long-term winter storage is required that the degree of treatment determined from the preceding considerations will not be adequate to prevent odors from developing in the storage ponds. In such cases, costs for increased treatment may be weighed against designing the storage ponds as stabilization ponds to prevent odor generation.

Existing treatment facilities should also be evaluated, and other design criteria – particularly loading rates and crop selection – should be reconsidered in light of the preapplication treatment requirements.

E.5.a. Public Health Considerations

Public health considerations, and regulations (in states where they exist), are normally the most important factors in determining the required degree of preapplication treatment. Factors that should be considered include:

- Type of crop grown
- Intended use of the crop
- Degree of contact of the public with the effluent
- Intended secondary use of the application area
- Method of application

State regulations for treatment prior to irrigation differ considerably. For example, the irrigation of certain crops to be eaten raw by humans may require either secondary treatment with disinfection or advanced wastewater treatment with disinfection, or it may be prohibited altogether [156]. State public health officials should be consulted for existing regulations and guidelines. As an illustrative example, the regulations for California are included in Appendix E. In addition, it may also be helpful to contact the FDA or other appropriate agencies, particularly when state guidance is lacking or not complete.

E.5.b. Relationship to Loading Rate

The degree of preapplication treatment given the wastewater prior to application will often have a considerable effect on the loading rate, and the final quality of the renovated water. Of concern are those wastewater constituents that may tend to limit the application rate, or for which the degree of renovation by land

application is insufficient. Concentrations of suspended solids must often be reduced to prevent soil clogging and land surface coating at design liquid loading rates. Concentrations of other constituents – such as BOD, nitrogen, phosphorus, and various inorganic ions – may need to be reduced to prevent the effects of overloading and to ensure the required quality of the renovated water. In many cases, liquid loading rates may be increased with no adverse effects on the renovated water quality, if the concentrations of various constituents are reduced.

E.5.c. Relationship to Effectiveness of Physical Equipment

The effectiveness and dependability of the pumping and distribution system will be largely affected by the degree of preapplication treatment, especially with respect to reduction of suspended solids. High concentrations of grit and suspended solids may cause: (1) the clogging of sprinkler nozzles, (2) the scoring of pump parts, and (3) sedimentation in pipes and conduits. High-pressure spray irrigation systems are normally the most susceptible to damage. Grease and oil can also cause maintenance problems in valves, pipelines, and sprinklers.

E.6. MANAGEMENT CONSIDERATIONS

Management considerations should be kept in mind throughout the planning stage of the project. Factors that should be considered include: (1) system control and maintenance, (2) manpower requirements for operation and maintenance, (3) monitoring requirements, and (4) emergency procedures and safeguards. Detailed procedures should be incorporated into the Operation and Maintenance Manual, which is discussed in Part III.

E.6.a. System Control and Maintenance

The method and degree of system control and maintenance requirements should be evaluated for each of the prospective land-application alternatives. System control may be manual or partially automatic, depending on the complexity of the system and the degree of variation expected in operating conditions. Most systems will require direct control; however, for irrigation systems in which effluent is supplied to independent farmers, control in possible only through contract agreements. Maintenance requirements should be realistically assessed, with emphasis on dependability of the system.

E.6.b. Manpower Requirements

Manpower requirements are related directly to the methods of system control and the maintenance requirements. The approximate number of personnel required should be determined, along with some indication of the necessary personnel qualifications and training requirements. Tchobanoglous [162], as shown in Table 10, has estimated annual manhour requirements for hypothetical 1-mgd

(43.8 l/s) land treatment systems. Staffing requirements are also discussed in references [49, 120].

Table 10. ESTIMATED ANNUAL MANHOUR REQUIREMENTS FOR LAND-APPLICATION ALTERNATIVES WITH A DESIGN FLOW OF 1.0 MGD[a] [162][b]

Category	Annual manhours		
	Irrigation	Overland flow	Infiltration-percolation
Supervisory[c]	416	416	416
Clerical	104	104	104
Laboratory	416	416	416
Yard	208	208	208
Operation	1,040	832	520
Maintenance	1,248	1,040	416
Total	3,432	3,016	2,080

a. 1 mgd = 43.8 l/s

b. Labor requirements for preapplication treatment are not included.

c. Includes preparation of reports.

E.6.c. Monitoring Requirements

The system must be evaluated to determine monitoring requirements necessary to ensure that proper renovation of wastewater is occurring and that environmental degradation is not. In many states, monthly self-monitoring reports must be submitted to the agency responsible for water pollution control. In addition, monitoring may also be conducted for design refinement or research purposes. Generally, water-quality monitoring is important for each stage of the treatment process, including the groundwater and any renovated water that is recovered for reuse or discharge.

For many land-application systems, particularly those with significant deep percolation rates, the monitoring requirement of primary importance in the

planning stage will be that of groundwater. A network of monitoring wells, or other monitoring devices, both on and off the site will often be necessary and will require significant planning. Special agreements may need to be formulated to drill and maintain access to off-site wells. Hydrogeologic considerations pertaining to groundwater flow and the proper placement of monitoring wells are discussed by Parizek [117].

E.6.d. Emergency Procedures

Emergency operating procedures should be considered at this point if serious environmental damage could result from equipment breakdown, severe weather, or power loss. An analysis should be made of the detrimental results that would occur if power service were interrupted for various lengths of time.

E.7. COST-EFFECTIVENESS ANALYSIS

To properly select the best wastewater treatment alternative, a cost-effectiveness analysis must be performed. To conduct such an analysis, detailed cost estimates must be prepared. The cost estimates for each alternative must be compared on an equivalent basis in terms of total present worth or annual cost. For example, the total annual cost of an alternative would include costs for operation, maintenance, and supervision and the amortized capital cost.

Federal regulations on Cost-Effectiveness Analysis (40 CFR 35) should be consulted, along with applicable state regulations for the proper methods of conducting the analysis. Capital and operating cost considerations of importance for land-application systems are discussed in the following subsections, while social and environmental costs are discussed in the following section on Environmental Assessment.

E.7.a. Capital Cost Considerations

Capital costs of importance for land-application systems include: acquisition of land, easements, water rights procurement and rights-of-way; relocation of buildings and residents; materials and construction costs for preapplication treatment facilities, earthwork, transmission, distribution, collection (for overland flow and underdrained systems), and monitoring facilities; administrative, legal, and engineering fees; startup costs; and interest during construction. Special considerations for capital cost estimations for land-application systems — including construction cost indexes, service life of equipment, and land costs — are discussed in the following subsections.

E.7.a.1. Construction or Other Cost Index — Because costs are changing and vary geographically, cost indexes published periodically are most useful in determining current local costs. An estimate of the cost of construction of an item can be made at one date and referenced to a cost index. To determine the comparable present cost, the current index is located and the cost is updated by multiplying by the ratio of the two indexes.

A common index in the construction industry is the Engineering News Record Construction Cost (ENRCC) index, which is weighted toward building and heavy construction. For conventional treatment plants, a more appropriate index is the EPA Sewage Treatment Plant index. For pipelines and drainage systems, the EPA Sewer Construction Cost index can be used. All three indexes are published in Engineering News Record.

E.7.a.2. Service Life of Equipment — The service life of much of the equipment used in land-application systems is highly variable. Standard service lives for conventional treatment processes are presented in the Federal Regulations on Cost-Effectiveness Analysis (40 CFR 35). Special service lives contained in Table 11 have been suggested by the Sprinkler Irrigation Association [155], and the University of Missouri Extension Division [1]. It should be noted that these service lives are for standard irrigation equipment used typically for periodic use during 4 to 6 months of the year. If irrigation machines are specially designed for wastewater operations, they can be expected to attain similar service lives. Therefore, factors particular to the system under consideration that may affect the expected service life include the annual period of operation, frequency of application, and wastewater characteristics.

E.7.a.3. Land Costs — Costs for land can be a considerable part of the initial capital cost, particularly for irrigation systems and for systems in relatively developed areas. Alternative methods of acquisition, as discussed in the previous section, should be compared on a cost-effective basis when praticable. Costs related to land acquisition, such as the acquisition of easements and rights-of-way and the relocation of residents, should also be included. In the cost-effectiveness analysis, land shall have a salvage value at the end of the planning period equal to its prevailing market value at the time of the analysis.

E.7.b. Fixed Annual Costs

Annual costs for operation and maintenance should be included in the cost analysis through the planning period (20 years). Fixed annual costs include labor, maintenance, supplies, and monitoring. Inflation of wages and prices should not be included unless significant changes in the relative prices of certain items are anticipated (40 CFR 35).

E.7.c. Flow-Related Annual Costs

Power is the major annual cost that depends on the annual quantity of wastewater treated. Economic returns, such as those from the sale of crops and/or renovated water, should also be considered. Costs of disposal should be included if the crop or vegetation is not marketable.

E.7.d. Nonmonetary Factors

Social and environmental factors and economic impacts are discussed in Section F.

Table 11. SUGGESTED SERVICE LIFE FOR COMPONENTS OF AN IRRIGATION SYSTEM [155] and [1]

Component	Service life		
	Hours[a]	or	Years
Well and casing			20
Pump plant housing			20
Pump, turbine:			
Bowl (about 50% of cost of pump unit)	16,000	or	8
Column, etc.	32,000	or	16
Pump, centrifugal	32,000	or	16
Power transmission:			
Gear head	30,000	or	15
V-belt	6,000	or	3
Flat belt, rubber and fabric	10,000	or	5
Flat belt, leather	20,000	or	10
Power units:			
Electric motor	50,000	or	25
Diesel engine	28,000	or	14
Gasoline or distillate:			
Air-cooled	8,000	or	4
Water-cooled	18,000	or	9
Propane engine	28,000	or	14
Open farm ditches (permanent)			20
Concrete structures			20
Concrete pipe systems			20
Wood flumes			8
Pipe, surface, gated			10
Pipe, water works class			40
Pipe, steel, coated, underground			20
Pipe, aluminum, sprinkler use			15
Pipe, steel, coated, surface use only			10
Pipe, steel galvanized, surface only			15
Pipe, wood buried			20
Sprinkler heads			8
Solid set sprinkler system			20
Center pivot sprinkler system			10-14
Side roll traveling system			15-20
Traveling gun sprinkler system			10
Traveling gun hose system			4
Land grading[b]			None
Reservoirs[c]			None

a. These hours may be used for year-round operations. The comparable period in years was based upon a seasonal use of 2,000 hr per year.

b. Some sources depreciate land leveling in 7-15 years. However, if proper annual maintenance is practiced: figure only interest on the leveling costs. Use interest on capital invested in water right purchase.

c. Except where silting from watershed above will fill reservoir in an estimated period of years.

E.8. FLEXIBILITY OF ALTERNATIVE

Items that allow flexibility should be included in each element of the design. Flexibility in the design of the system should generally be considered with respect to: (1) changes in treatment requirements, (2) changes in wastewater characteristics, (3) ease of expansion, (4) changes in land utilization, and (5) technological advances.

E.8.a. Changes in Treatment Requirements

The alternative plan should include provisions to upgrade water quality to meet more stringent treatment requirements. Various methods of upgrading could include increased preapplication treatment and reduction of application rates.

E.8.b. Changes in Wastewater Characteristics

In some cases, changes in wastewater characteristics may result from changes in the water supply, new industries, or changes in the effluent characteristics of existing industries. An assessment should be made of the ability of the system to handle these potential changes, particularly increases in certain critical wastewater constituents. Compensating modifications to the system, such as increased preapplication treatment or reduced loading rates, should be identified.

E.8.c. Ease of Expansion

Careful consideration should be given to the design capacity of the land-application system and to the ease with which the system can be expanded. Both planned stages of expansion and the need for expansion that might result from unforeseen circumstances should be considered. All components of the system that will be affected by expansion should be considered including:

- Amount of land available
- Storage capacity
- Preapplication treatment capacity
- Transmission facilities

The environmental impact of potential expansions should also be evaluated.

E.8.d. Changing Land Use

Future modifications to a land treatment system may be necessary because of changes in adjacent land use. For example, a treatment system originally situated in an agricultural or undeveloped area may, after a number of years, become surrounded by residential, commercial, or industrial developments. Requirements for odor control and aesthetics may become more strict and unforeseen health concerns may arise. Modifications to the system, such as additional buffer zones and stricter control procedures, may be necessary. Treatment alternatives should be evaluated for effects that vary with different uses of the surrounding land.

E.8.e. Technological Advances

Future system modifications resulting from technological advances may be possible. Wastewater treatment by land application is presently the subject of a great deal of study and research. As a result, many new guidelines and new techniques are anticipated. Advances may be possible in preapplication treatment, application techniques, system monitoring, and in the knowledge of soil-water-plant relationships.

E.9. RELIABILITY

The reliability and dependability of the system are critical, particularly if the adverse effects of an operational breakdown or a poorly operating system may be great. Areas of susceptibility, such as nozzle clogging, lack of standby equipment, or lack of storage, should be identified and sufficient safeguards employed whenever possible. A number of reliability features, including factors-of-safety, backup systems, and contingency provisions, should be included in the design of land-application systems (II-C.9.). In most cases, the requirement for these features should also be addressed in the preliminary plan. For additional considerations, the EPA technical bulletin on reliability [35] should be consulted.

E.9.a. To Meet or Exceed Discharge Requirements

The reliability of the system should be assessed with respect to its ability to meet or exceed present and future discharge requirements consistently. This reliability should be assessed under both normal operating and potential abnormal conditions.

E.9.b. Failure Rate Due to Operational Breakdown

The possibility of system failure resulting from operational breakdown of various components should be evaluated. The breakdown of the physical equipment and preapplication treatment facilities and the temporary inability of the soil to accept further application represent system failures. The consequences of system failure should be evaluated and additional safeguards, including the use of backup systems, should be considered.

E.9.c. Vulnerability to Natural Disasters

The vulnerability of the system to natural disasters, such as earthquakes, hurricanes, tornadoes, and floods, should be assessed. The probable consequences should be considered, and safeguards, when they are feasible, should be employed. Possible courses of action to deal with such events should be included in the operation and maintenance manual.

E.9.d. Adequate Supply of Required Resources

The reliability of the system should be evaluated with respect to the adequacy of both the present and the anticipated future supply of required resources. Resources that may require evaluation include: power, material for soil additions, manpower, and chemicals required for preapplication treatment.

E.9.e. Factors-of-Safety

One of the more significant reliability features that should be addressed in the preliminary planning stage is the inclusion of factors-of-safety in the design of various system components, such as flow capacities, field area requirements, and storage capacities. It is usually prudent to view the entire system when evaluating the need for factors-of-safety, because the reliability of one particular component often affects the degree of reliability necessary for other components.

Section F

ENVIRONMENTAL ASSESSMENT

The impact of the project on the environment, including public health, social, and economic aspects must be assessed for each land-application alternative. Environmental assessments are required for all federally funded projects, and similar reports are required by many state and local governments. This section is not intended to replace existing guidelines (40 CFR 6) for the preparation of environmental assessments, but instead is designed to highlight some of the important considerations particular to land application.

In accordance with existing guidelines, environmental assessment will generally consist of:

- Description of the environmental setting
- Determination of components affected
- Evaluation of possible methods of mitigation of adverse effects
- Determination of unavoidable adverse effects
- Evaluation of overall and long-term effects

Environmental component interactions should be considered and measurable parameters identified if possible.

F.1. ENVIRONMENTAL IMPACT

Environmental components that may be affected by land-application systems include: (1) soil and vegetation, (2) groundwater, (3) surface water, (4) animal and insect life, (5) air quality, and (6) local climate. Effects on the soil, vegetation, and groundwater are normally the most critical, with the effects on surface water being critical at times.

F.1.a. Soil and Vegetation

The effects of land application on the soil and vegetation can be either beneficial or adverse, with the overall effect most often being mixed. Effects on surrounding land and vegetation may be brought about by changes in various conditions, such as groundwater levels, drainage areas, and microclimates.

Soil conditions, including drainage characteristics and levels of chemical constituents, may be affected by land application. Infiltration and percolation capacities may decrease as a result of clogging by suspended solids, although proper management techniques including resting periods and soil surface raking may help to mitigate this condition. Rates may also increase or decrease as a result of changing chemical conditions, such as the pH and sodium content of the soil. Long-term effects on the soil chemistry, such as the buildup of certain constituents to toxic levels, may be critical in land-application systems. Effects on soil conditions should be predicted initially, and appropriate monitoring requirements should be defined. Various references, particularly Thomas and Law [167], may be helpful in predicting soil effects.

The effects on vegetation are usually beneficial for a well-operated system. Virtually all essential plant nutrients are found in wastewater and should stimulate plant growth. Toxic levels of certain constituents in the soil, which may reduce growth or render crops unsuitable for the intended use must be evaluated [27]. Excess hydraulic loadings or poor soil aeration may also be harmful to plant growth.

F.1.b. Groundwater

The groundwater quality and level will be affected by most land-application systems. Exceptions would be many overland flow, underdrained, and pumped withdrawal systems. Wastewater constituents that are not used by the plants, degraded by microorganisms, or fixed in the soil may leach to the groundwater. Nitrate nitrogen is the constituent of most concern; however, heavy metals, phosphorus, organics, total dissolved solids, and other elements discussed in I-B.4 may also be of significance.

Groundwater levels may be affected by land application, particulary for infiltration-percolation systems. In turn, groundwater flow may be affected with respect to both rate and direction of movement. The direction and effects of the altered groundwater flow must be predicted, and appropriate monitoring requirements defined.

F.1.c. Surface Water

Surface waters may be affected directly by (1) discharge from an overland flow, underdrained, or pumped withdrawal system, (2) interception of seepage from an infiltration-percolation system, or (3) undesired surface runoff from the site. Both surface water quality and rate of flow may be influenced. Changes in water quality will be regulated by federal, state, or regional standards. Effects on surface water flow should be investigated both with respect to possible increased and decreased rates of flow. Wastewater reuse

systems, used to replace systems previously discharging to a surface water, will result in decreased flows with possible adverse consequences to previous downstream users, or existing fisheries.

F.1.d. Animal and Insect Life

Treatment by land application may result in changes in conditions, either favorably or adversely affecting certain indigenous terrestrial or aquatic species. Beneficial effects, such as the increased nutritive value of animal forage, should be compared to possible adverse effects, such as the disruption of natural habitat, for each species of concern. Little information exists on this subject, but Sopper [148] reports some initial findings. The possibility of insects or rodents acting as disease vectors is discussed separately under Public Health Effects (I-F.2.b.).

F.1.e. Air Quality

Air quality may possibly be affected through the formation of aerosols from spray systems and through odors. With aerosols, the primary concern is with transmission of pathogens, which will be discussed further under Public Health Effects. Odors are caused principally by anaerobic conditions at the site or in the applied wastewater. Correction of these conditions is the only permanent cure.

F.1.f. Climate

Land-application systems, particularly large irrigation or overland flow systems, may have a limited but noticeable effect on the local climate. Air passing over a site will pick up moisture and be cooled, resulting in a localized reduction in temperature. Original conditions are normally regained within a short distance from the site [125].

F.2. PUBLIC HEALTH EFFECTS

When evaluating the overall environmental impact of an alternative, special consideration should be given to those effects that relate directly to the public health. In many cases, state health regulations and guidelines serve to protect against many of the effects. Public health effects that should be considered include: groundwater quality, insects and rodents, runoff from site, aerosols, and contamination of crops. Overviews of public health effects that may be helpful are contained in references [13, 130, 143, 152].

F.2.a. Groundwater Quality

The quality of the groundwater will be of major concern when it is to be used as a potable water supply, particularly when an infiltration-percolation system is planned. A sufficient degree of renovation will be required to

meet the BPT requirements for groundwater protection. Nitrates are the most common problem, but other constituents, including stable organics, dissolved salts, trace elements, and pathogens should be considered. Extensive monitoring and control practices must be planned.

F.2.b. Insects and Rodents

Because of the possibility of contamination from pathogens in the wastewater, the control of insects and rodents on a land-application site is more critical than on a conventional irrigation site. Conventional methods of control will normally be required for most pests.

Mosquitoes are a special problem because they will propagate in water standing for only a few days. Elimination of unnecessary standing water and sufficient drying periods between applications are the most effective methods of control.

F.2.c. Runoff from Site

Applied effluent should not be allowed to run off the site except in systems designed for surface runoff (e.g., overland flow). The extent to which runoff from storm events must be controlled depends upon the water quality objectives of the surface water and the possible effects of such runoff on water quality. Few data are available to assess storm runoff effects from land-application sites.

F.2.d. Aerosols

Generally, the danger of aerosols lies in their potential for the transmission of pathogens. Aerosols are microscopic droplets that conceivably could be inhaled into the throat and lungs. Aerosol travel and pathogen survival rate are dependent on several factors, including wind, temperature, humidity, vegetative screens, and other factors. Methods of reduction should be employed to ensure that transmission of aerosols is minimized, with probable travel under normal conditions being limited to an acceptable area. This area should be determined on the basis of the proximity of public access. Sorber [152] and Sepp [143] present discussions of this issue and discuss the research on the subject.

Safeguard measures that may be employed against aerosol transmission include:

- Buffer zones around the field area
- Sprinklers that spray laterally or downward with low nozzle pressure

- Rows of trees or shrubs
- Cessation of spraying or spraying only interior plots during high winds
- Combinations of the enumerated measures with adequate disinfection

F.2.e. Contamination of Crops

The effect of effluent irrigation on crops, with regard to safety for consumption, is a matter of some concern. Many states have regulations dealing with the types of crops that may be irrigated with wastewater, degrees of preapplication treatment required for various crops, and purposes for which the crops may be used. The proposed California regulations are included in Appendix E, and are offered as an example. Individual state health departments should be consulted, since regulations vary widely from state to state. Additional information on the contamination of crops may be found in Sepp [143], Rudolfs [135], and Bernarde [13], or by contacting the FDA or other applicable agencies.

F.3. SOCIAL IMPACT

The overall effects of the proposed system should be evaluated in light of their impact on the sociological aspects of the community. Included in the evaluation should be considerations of: relocation of residents, effects on greenbelts and open space, effects on recreational activities, effects on community growth, and effects on the quality of life.

F.3.a. Relocation of Residents

The requirement for large quantities of land, particularly for irrigation and overland flow systems, often necessitates the purchase of land and possibly the relocation of residents. For federally funded projects, the acquisition of land and relocation of residents must be conducted in accordance with the Uniform Relocation Assistance and Land Acquisition Policies Act of 1970. In such cases, the advantages of the proposed treatment system must be weighed against the inconvenience caused affected residents, and then compared with other alternatives.

F.3.b. Greenbelts and Open Spaces

Proposed treatment systems should be evaluated from an aesthetic point of view and with respect to the creation or destruction of greenbelts and open spaces. Disruption of the local scenic character is often unnecessary and undesirable, while through proper design and planning, the beauty of the landscape can often be enhanced. Reforestation and reclamation of disturbed

areas, such as those resulting from strip mining operations, are possible beneficial effects.

F.3.c. Recreational Activities

The net result of the treatment system on recreational facilities should be considered. Existing open space or parks may be disrupted; however, other recreational areas may be created or upgraded. Irrigation of new parks or golf courses and recreational use of renovated water are possibilities for increasing the overall value of a proposed treatment system.

F.3.d. Community Growth

The effects of a new treatment system may stimulate or discourage the growth of a community, both in terms of economics and population. Often, improved wastewater treatment service may allow new construction or expansion in the service area. Such growth may consequently tax other existing community services. The potential of the treatment system for affecting community growth should be evaluated, and the subsequent effects on other aspects of the community documented.

F.4. ECONOMIC IMPACT

An evaluation of the economic impact should include an analysis of all economic factors directly and indirectly affected by the treatment system. Many factors common to conventional systems apply; however, additional factors may be applicable to various land-application systems. Possible additional factors include:

- Change in value of the land used and adjacent lands
- Loss of tax revenues as a result of governmental purchase
- Conservation of resources and energy
- Change in quality of ground or surface waters
- Availability of an inexpensive source of water for irrigation

The effect of the treatment system on the overall local economy should then be appraised, especially with respect to financing and the availability of funds for the long-term operation and maintenance of the system.

Section G

IMPLEMENTATION PROGRAM

Selection of the best alternative must be based on an assessment of the cost-effectiveness and the overall impact of the alternatives for wastewater management. To ensure that the best system is selected by the decision makers, all aspects of the alternatives should be made available for public review and evaluation, including the engineer's recommendation. Re-evaluation and modification of the plans may be necessary before a system is selected and general acceptance is received. A long-range wastewater management plan should be included with the implementation schedule.

G.1. PUBLIC INFORMATION PROGRAM

The establishment of an extensive public information program at the earliest possible time is wise, especially when alternatives under consideration may be controversial. Public involvement to the maximum possible extent should be sought, with feedback to planners and decision makers.

G.1.a. Approaches to Public Presentation

In many cases, public opposition to proposed land-application systems can be related to lack of knowledge or understanding of the fundamentals involved. Consequently, a well-planned information and education program is highly desirable, and in many cases, required. Effective presentation will usually entail a combination of some or all of the following approaches.

G.1.a.1. Local Officials – Close liasion should be maintained with all local officials who may be directly or indirectly concerned with the project or its effects. The maximum amount of useful information should be passed on to these officials at the earliest possible time to ensure their thorough understanding and continuing support. Properly informed officials may in turn become useful and integral members of the public information program through public addresses and contacts with various citizen and special-interest groups.

G.1.a.2. Public Hearings – Public hearings, which are required for most projects, allow individuals and representatives of groups to speak and present written statements of their viewpoints. These hearings should be conducted in accordance with Public Participation in Water Pollution Programs (40 CFR 105).

Notification of the hearing should be extensive and in addition to advertisements in the mass media should include notification by mail to all groups,

agencies, and individuals who may have an interest. To ensure that key decision makers are present, personal telephone invitations may be necessary. The hearing should be recorded and should be followed up by resolution of disagreements, corrections of deficiencies, additional hearings, or any other measures that may be necessary.

G.1.a.3. Mass Media – The mass media, including local newspapers, radio, and television may be helpful in dissemination of general information through articles, special features, and interviews. Additionally, the mass media should be utilized for notification and advertisement of hearings and other public meetings.

G.1.a.4. Local Residents and Landowners – Local residents and landowners, who may be displaced by the project, and those who are to be its neighbors must be kept informed of current planning. Special information programs, through letters, special meetings, and other means, are often necessary to minimize opposition and to preclude possible legal conflicts that may result from unwarranted assumptions and fears.

G.1.a.5. Special-Interest Groups – A wide variety of special-interest groups – including sportsmen's clubs, conservation groups, and taxpayer organizations – may be concerned with the project and its effects. Areas of concern will be widely varied, but every effort should be made to anticipate them and to address them at the earliest possible stage. Many well-informed special-interest groups can be expected to add their support to the intended project and may be valuable in helping to continue the public information program.

G.1.b. Public Opinion

Public opinion may be expressed by various means, including: reaction at public hearings, statements of various groups, letters, polls, and elections. Expression of public opinion should be encouraged at an early stage so that adequate consideration and response may be given to areas of concern. Every effort should be made to ensure that all areas of concern are met with reasonable responses based on a review of the project plans. Responses may be either explanations and justifications or modifications to the portions of the plan in question.

G.2. LEGAL CONSIDERATIONS

Legal conflicts may sometimes be unavoidable in the implementation of land-application systems, particularly in the areas of land acquisition and water rights. To avoid later problems legal counsel may be desirable early in the planning stage to outline legal constraints and ensure the overall legality of the project. Possible areas of conflict should be anticipated and settled as quickly as possible.

G.3. REEVALUATION OF ABILITY TO IMPLEMENT PROJECT

Prior to the submission of the facilities plan, the entire project should be reviewed and reevaluated. Considerations, such as public opinion, legal conflicts, and method of financing including the possible need for bond elections, should be weighed against alternative concepts. The overall effect of these considerations on the ability to implement the project should be assessed.

G.4. IMPLEMENTATION SCHEDULE

An implementation schedule is necessary to ensure orderly progress toward completion of the project and to set up a long-range management plan. The long-range plan must be formulated to ensure that the recommended courses of action for wastewater management are carried out in an orderly manner throughout the planning period. It is also imperative that the management plan be designed so that technical and operational changes can be incorporated as necessary during the planning period.

For construction purposes, the schedule should include goals for both beginning and completion dates for various stages of the project. All key dates and project stage sequences should be shown graphically for ease in understanding.

The implementation program should also document the steps in financing of the system costs. Users charges and industrial cost recovery are required for all projects receiving federal funds (40 CFR 35 regulations in the Federal Register, August 21, 1973, and February 11, 1974). Costs that are eligible for grant funding must be identified. Costs to be borne by the community should be indicated on a per capita basis, with repayment and cost-sharing by industries included. These are crucial issues in which the public will be most interested.

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PART II

DESIGN PLANS AND SPECIFICATIONS

Section A

AGREEMENT WITH FACILITIES PLAN

When reviewing the design plans and specifications, the evaluator should have a clear understanding of the facilities plan and its relationship to the design. The engineer should include a statement with the design package concerning agreement with the facilities plan especially with regard to:

- Area for application
- Critical loading rate
- Degree of treatment
- Storage volume

The design should conform as closely as possible to the facilities plan; however, modifications may be necessary or desirable as the project is studied further, and more data become available. Reevaluation of the plan, in whole or in part, may also be necessary.

A.1. MODIFICATIONS

Modifications and refinement of the facilities plan are often necessary and can occur for a variety of reasons. They may be the result of a pilot study, further detailed site investigations, or a change in project goals.

Modifications to any one system component should be evaluated relative to their effects on the entire system and on the other components. For example, a decision to change the type of crop grown in an irrigation system may be based on preapplication treatment considerations. The change in crops will, in turn, necessitate a reevaluation of such factors as loading rates, nutrient removals, storage requirements, manpower requirements, and economic considerations.

To demonstrate expected treatment results in special cases, such as for overland flow, pilot studies may be necessary. This should be a relatively rare occurrence for land-application approaches such as irrigation or infiltration-percolation. The extra cost of a pilot study and the subsequent delay of project implementation must be well justified.

If pilot studies have been conducted, summaries of results should be required either as a supplement to the facilities plan or as supporting material for the design plans and specifications. These results may form the basis of modifications or support to the facilities plan.

When departures from the original concept have been made for any reason, justifications, new data, and computations should be required. This information should be included in either a supplement to the facilities plan or as supporting material with the plans and specifications, and should be reviewed with respect to the applicable considerations from Parts I and II of this publication.

A.2. REEVALUATION OF FACILITIES PLAN

In some cases, a complete reevaluation of the facilities plan may be necessary when changing conditions, new information, or unanticipated problems create doubts as to the suitability of the system. Further modifications or reconsideration of previously eliminated treatment alternatives may be required. Areas of primary concern include: changes in conditions and treatment requirements that have occurred during the interim period and results from any pilot studies.

Changes in conditions and treatment requirements may be the result of new federal or state regulations or changes in basin water-quality management plans (40 CFR 131) or areawide wastewater treatment plans (40 CFR 35. 1050). Areas that may be affected include: (1) both groundwater and surface-water discharge requirements, (2) public health regulations with regard to preapplication, crop selection, or application techniques, and (3) land-use or zoning regulations.

Major problems with the proposed system may be identified during pilot studies. Solution of these problems may be possible by changing design criteria, process equipment, or management techniques. On the other hand, the entire facilities plan may have to be reevaluated and another alternative pursued.

Section B

SITE CHARACTERISTICS

In this section, details concerning site characteristics that should be considered when reviewing the plans and specifications are discussed with respect to topography, soils, and geohydrology. In most cases, a considerable amount of data on site characteristics will have been collected and analyzed during the planning stage of the project and will have been included in the facilities plan (I-C.). Frequently, the scope and degree of detail of this information is sufficient for design purposes and it does not need to be repeated in material supplied to the evaluator. In other cases, additional information and more detailed analyses may be required. When this additional information is used as a basis for design, its submission – in the form of either a supplement to the facilities plan or as supporting material with the plans and specifications – should be required. Evaluation of this additional material should be with respect to considerations addressed in both this section and in Section I-C.

B. 1. TOPOGRAPHY

A fairly detailed analysis of the topography of the site and adjacent land will have been conducted during the planning stage. In the design stage, however, additional information may be required as plans are developed. Use of aerial or ground surveys may be required to produce detailed plans for earthwork and site preparation. The site topography, as altered by construction, earthwork, and field preparation, should be analyzed for drainage patterns and erosion potential.

B. 1. a. Site Plan

In almost all cases, a set of large-scale site plans will be required. The scale of the drawings will vary with the size and complexity of the project; however, 1 inch = 50 feet, with 2-foot contour intervals is considered reasonable for most projects. Features that should be included are:

- Topography of the site
- Property boundaries
- Application areas
- Transmission and distribution systems
- Buffer zones
- Drainage systems and surface water bodies
- Storage areas

- Preapplication treatment facilities
- Monitoring points, wells, and springs
- Roads, buildings, pumping stations, etc.

Additional plans may be necessary to show greater detail of certain features or a greater amount of surrounding land. They will often be required for drainage studies and for the exact location of transmission lines.

B. 1. b. Effects of Adjacent Topography

The adjacent topography should be evaluated for its effects on the site, particularly with respect to drainage. Adjacent land characteristics that may potentially (1) add stormwater runoff to the site, (2) back up water onto the site, (3) provide relief drainage, or (4) cause appearance of groundwater seeps, should be identified. In most cases, the first two conditions are highly undesirable, and corrective measures, such as interceptor ditches or drainage systems, must be employed.

B. 1. c. Erosion Prevention

The topography of the site and adjacent land should be evaluated for areas of potential erosion, and the plans should be checked for provisions for erosion control. The effects of both applied wastewater and storm runoff should be considered. Special consideration should be given to the period of construction and system startup, when vegetative cover may be lacking or not fully developed. Erosion control procedures are documented in a recent report for EPA [128].

B. 1. d. Earthwork Required

Earthwork details should be presented for both (1) field preparation, and (2) facilities, such as transmission lines, storage, and roads. Earthwork required for field preparation may include:

- Clearing of existing vegetation and debris
- Leveling, sloping, or grading of application area
- Spreading or storage basin construction
- Construction of dikes, levees, etc.
- Drainage and collection ditches, and erosion-control measures

The amount of earthwork required will be highly varied and will be dependent on the type of system and the existing topography. For many systems, particularly those employing overland flow, earthwork may be one of the largest construction cost components. Where topsoil is shallow, it may be necessary to stockpile topsoil for redistribution after the grading of underlying soil has been completed.

B.1.e. Disposal of Trees, Brush, and Debris

A special consideration during construction and field preparation is the method of disposal for trees, brush, debris, and other cleared material. This may present a significant problem, particularly for projects in which large amounts of previously unused or uncultivated land are to be used. The most important concern is that of the environmental impact, especially if disposal is to be accomplished by burning. An acceptable method of disposal should be included in the specifications.

B.2. SOIL

For some land-application systems, the analysis of soil characteristics conducted during the planning stage will be sufficient for design purposes and reported material need not be repeated with the design package. Additional information that may be required for design is discussed in following subsections. Infiltration and percolation rates are discussed separately in the section on Design Criteria (II-C).

B.2.a. Soil Maps

Soil maps should be included with design plans for land-application systems, unless previously submitted in the facilities plan. Although the generalized SCS soil maps contain a large amount of useful data on soils, they may not be detailed or specific enough for design purposes. The use of soil maps for the presentation of soil data may be extremely helpful, particularly where soil characteristics are varied over the site. Existing soil maps may be used, or maps can be prepared showing variations in characteristics such as: (1) soil type, (2) infiltration and percolation potentials, (3) physical and chemical characteristics, and (4) soil depths.

B.2.b. Soil Profiles

A detailed description and analysis of the soil profile will frequently be necessary for design purposes, particularly if a large amount of percolation is planned, and where the effects of lower soil layers are of concern. Minimum soil profile depths to be evaluated by the designer, as suggested earlier (I-C) are:

- 2 to 5 feet (0.61 to 1.52 m) for overland flow
- At least 5 feet (1.52 m) for irrigation
- At least 10 feet (3.05 m) for infiltration-percolation

The required data may be obtained from SCS soil surveys, borings or test pits, or well-driller logs. If obtained from SCS surveys, the descriptions of the soil profiles will generally include: (1) the location on the site where the profile was determined, (2) mechanical classification, pH, salinity, and percent sodium for each layer of soil encountered, (3) the depth of each layer, and (4) the percolation rate expected. Additional soil analyses from the series of tests suggested in I-C.2.c.1 may also be required. In many cases, soil profiles must be determined at a number of locations, particularly where soil characteristics are varied over the site. Analysis of the underlying soil should be conducted primarily with respect to those properties affecting renovation capabilities and percolation potential (permeability for those soil layers that are to be saturated). The need for soil amendments such as lime or fertilizer in the topsoil should be determined.

B.3. GEOHYDROLOGY

The extent to which geohydrologic conditions should be considered during design will be dependent on the method of application to be employed and the type and severity of conditions known to exist. Generally, a detailed analysis of the site geology and groundwater conditions will be necessary for infiltration-percolation and high-rate irrigation systems, where large amounts of percolating water may greatly affect the groundwater. When potentially adverse conditions, such as geologic discontinuities, perched water, and seasonally high water tables, are indicated during the preliminary site investigation, additional analysis and consideration may be necessary during design.

B.3.a. Map of Important Geologic Formations

A map of the important geologic formations underlying the site will be necessary where the formations may possibly affect the renovation of the percolating wastewater or the groundwater flow. Formations and features that should be shown on the maps or drawings that accompany the design package, when of significance, include:

- Depth to bedrock
- Lithology of bedrock
- Outcrops
- Glacial deposits
- Discontinuities, such as faults, joints, fractures, and sinkholes

When the underlying geologic conditions are relatively uniform, or when they are of little significance a map will usually not be necessary.

B.3.b. Analysis of Geologic Discontinuities

The presence of geologic discontinuities, such as faults, joints, fractures, and sinkholes, is cause for special concern because short-circuiting of the percolating wastewater may occur. In most cases, sites where geological formations contain severe discontinuities should have been eliminated from consideration during the preliminary site investigation; however, acceptable land-application systems may be possible where: (1) short-circuiting of the percolate to the groundwater occurs after sufficient renovation, and (2) the condition of the discontinuity is not expected to worsen. The first condition can usually be met if a sufficient soil horizon exists above the discontinuity. Suggested minimum depths of the soil horizon above discontinuities are:

- 2 feet (0.61 m) for overland flow
- 5 feet (1.52 m) for irrigation
- 15 feet (4.57 m) for infiltration-percolation systems

With regard to the second condition, the probability that discontinuities will not be aggravated as a result of the land-application system must be assessed. When the site is underlain with limestone, discontinuities may well be aggravated. Existing sinkholes may be enlarged and new ones created as a result of the percolating wastewater.

B.3.c. Groundwater Analysis

A detailed groundwater analysis will be necessary for design purposes, particularly for infiltration-percolation and high-rate irrigation systems. Factors that should be considered include: (1) existing quality of the groundwater and required quality of the percolate with respect to the BPT requirements for groundwater protection [3], (2) the extent of the recharge mound, (3) the need for underdrainage or pumped withdrawal, (4) the probability of the groundwater reaching levels that may interfere with efficient renovation (see I-C.2.e.1), (5) the effects of the system on direction and rate of groundwater flow and, (6) the degree of monitoring required. Potential adverse effects on the groundwater identified in the planning stage (I-F) should be reviewed, and means of control employed in the design.

Section C

DESIGN CRITERIA

The following factors should be considered in the design of a land-application system:

- Climatic factors
- Infiltration and percolation rates
- Loading rates
- Land requirements
- Application rates and cycle
- Crops
- System components
- Flexibility
- Reliability

It must be reemphasized that land-application system designs are site-specific and that design criteria must be based on the conditions of the particular site. In evaluating a design, the following points should be considered:

- The validity of design assumptions
- Compatibility with site conditions
- Completeness and degree of detail
- Ability to meet project objectives

In most cases, design criteria used as a basis for the plans and specifications will have been included in the facilities plan (I-E); however, greater detail, refinements, and modifications will often be necessary. Submission of supporting material for these refinements and modifications – either along with the plans and specifications or by means of a supplement to the facilities plan – should be required. This supporting material should be reviewed with respect to considerations addressed in this section and Section I-E., and then used as a basis for evaluating the plans and specifications. Sample listings of design criteria for irrigation, infiltration-percolation, and overland flow systems are included in Appendix D.

C.1. CLIMATIC FACTORS

Design assumptions must be reviewed with regard to each climatic factor. For example, if a particular system is to be designed so that no runoff from the site results from a 5-year storm, the intensity of that storm should have been determined and used as a basis for design. Climatic conditions must usually be considered with respect to precipitation, temperature, and wind.

C.1.a. Precipitation

Precipitation, including rainfall, snow, and hail, will affect a number of design components such as: (1) liquid loading rates, (2) storage requirements, and (3) drainage system requirements. Precipitation data that will normally be required for design include:

- Total annual precipitation
- Maximum and minimum annual precipitation
- Monthly distribution of precipitation
- Storm intensities
- Effects of snow

C.1.a.1. Total Annual Precipitation – The total annual precipitation used for design purposes should normally be estimated from a frequency analysis of precipitation data over the period of record (I-C.2.a). In most cases, precipitation from a wetter-than-normal year must be assumed, particularly where liquid overloading of the system may be a potential problem. The total annual precipitation for the wettest year in 10 is suggested as reasonable for most systems, although the wettest year in 50 or higher may be desirable for estimating storage requirements.

C.1.a.2. Maximum and Minimum Annual Precipitation – In many cases, the maximum and minimum annual precipitation on record will be of significance. For example, a considerable difference between the design precipitation and the maximum precipitation on record may require that special provisions for drainage be made. Minimum amounts of precipitation may be of interest for certain irrigation systems, where design liquid loadings are low and the applied wastewater alone would not be sufficient for optimum vegetation growth. In such cases, a plan for reduced crop acreage or for supplemental irrigation water should be included.

C.1.a.3. Monthly Distribution of Precipitation – The distribution of precipitation over the year should be expressed as the amount of precipitation per month for the design year. Seasonal variations in application rates and storage requirements will be based on an analysis of the monthly distribution.

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C.1.a.4. Storm Intensities – Storm intensities, normally expressed in inches/hour, must be estimated for the design of drainage and runoff collection systems. This estimation will normally be made on the basis of a frequency analysis and a design storm event will be selected and analyzed for the amount of runoff.

C.1.a.5. Effects of Snow – In regions where accumulation of snow is probable, the effect of snow conditions must be evaluated. Important data that may be required include: (1) total amount of snowfall, (2) maximum expected depth, and (3) the period of snow cover.

C.1.b. Temperature

Temperature, through its influence on various renovation mechanisms and on plant growth, will affect liquid loading rates and the period of operation. Temperature data that may be necessary for design include:

- Monthly or seasonal averages and variations
- Length of growing season
- Period of freezing conditions

C.1.b.1. Monthly Averages and Variations – The range of temperatures that prevail at the site should be expressed in terms of monthly or seasonal averages and variations. In many cases, where cold weather may require a reduction or cessation of application, design temperatures should be based on a frequency analysis of colder-than-normal conditions.

C.1.b.2. Length of Growing Season – An estimation of the length of the growing season will be necessary for irrigation and overland flow systems and for those infiltration-percolation systems with vegetated basin surfaces. Because the length of the season will vary with the crop, the Agricultural Extension Service should be consulted.

C.1.b.3. Period of Freezing Conditions – The period when application of wastewater must be reduced or ceased as a result of freezing conditions must be estimated. Freezing conditions may include the period when the ground is frozen or the period between the first and last frosts of the season.

C.1.c. Wind

For spray application systems, an analysis of the wind will be necessary for design. Wind conditions that require a reduction or temporary cessation of application should be determined with respect to velocity and direction. The frequency and duration of those conditions should then be estimated by means of a frequency analysis.

C.2. INFILTRATION AND PERCOLATION RATES

Infiltration and percolation rates are included in this section rather than the previous one (Site Characteristics) because of their direct relationship to the design of the system. Design rates must be determined for use in subsequent design calculations such as application rates and drainage system requirements.

C.2.a. Design Rates

Design infiltration and percolation rates should be determined from data obtained in the preliminary site investigation (I-C.2.c.2) and from additional studies where required. Other soil characteristics (II-B.2) and geohydrologic factors (II-B.3) must be evaluated for their effects on percolation rates. Conditions that may be expected to periodically inhibit infiltration or percolation, such as cold weather or prolonged periods of soil wetting, should be assumed in the determination of design rates. Requirements for periodic drying or resting periods should be included.

C.2.b. Basis of Determination

The basis used to determine the design infiltration and percolation rates, and the results of any studies or analyses involved, should be evaluated. Design rates should be based on at least one or more of the following analyses or consultation services:

- Analysis by Agricultural Extension Service or soil specialists
- Analysis of soil borings and profiles
- Analysis of SCS soil surveys
- From farming experience
- From results of pilot studies

C.3. LOADING RATES

Loading rates for the liquid applied and the major constituents of the wastewater will form the basis for the design determination of land requirements, application rates, and crop selection (for irrigation and overland flow). Loading rates computed in the preliminary planning stage (I-E.1) should be reviewed and possibly revised to reflect changes in the wastewater characteristics or in the application rates.

C.3.a. List of Loading Rates

Loading rates that form the basis of the design are to be included in the design criteria (see Appendix D) for the specific land-application system.

Elements or constituents of concern should include any which may potentially cause short- or long-term problems for the specific system, or whose concentrations in the renovated water may reach or exceed water-quality standards.

C.3.b. Critical Loading Rate

The loading rate identified in the planning stage as being critical (I-E.2.a.) will be used in the determination of the application area and other design factors, such as crop selection. The critical loading rate should be highlighted with an asterisk on the design criteria listings (Appendix D).

C.4. LAND REQUIREMENTS

Land requirements must be identified for each of the following components:

- **Application area**
- **Buffer zones**
- **Storage**
- **Preapplication treatment, buildings, and roads**
- **Future and emergency needs**

Land for each component should be designated on the site plan. Additionally, methods of determination and calculations should generally be reviewed, particularly those for the application area.

The land required for the direct application and treatment of the wastewater will be calculated from the design critical loading rate as described in paragraph I-E.2.a. A distinction should be made between the wetted and field acres where the distinction is significant, as is the case for all overland flow and some irrigation systems. Individual plots or basins that are to be operated as units in a rotation cycle should be identified and numbered.

C.5. APPLICATION RATES AND CYCLE

The design application rates and the schedule of application periods should be reviewed and related to the determination of land and storage requirements and to the design of the distribution system (I-C.7.d.). Factors and considerations relating to their derivation are discussed below.

C.5.a. Annual Liquid Loading Rate

The design annual liquid loading rate (ft/yr) should be identified (II-C.3.). All application rates with respect to smaller units of time (e.g., in./wk) should be derived from or be compatible with the annual loading.

C.5.b. Length of Operating Season

The length of the operating system may vary from year-round for many infiltration-percolation systems to as little as 5 or 6 months for some irrigation systems.

C.5.c. Application Cycle

The application cycle, or the combination of application and resting periods, should be defined in the form of an operating schedule. The length of the cycle and the ratio of wetting to drying depends on site-specific factors (I-E.1.d.) and may include seasonal variations. Common cycle lengths are:

- 1 week for irrigation, with a range from 2 days to 6 weeks
- 1 day for overland flow, with a range from 12 hours to 2 days
- 3 weeks for infiltration-percolation, with a range from a few days to a month

C.5.c.1. Application Period and Rates – The application or wetting period of the cycle should be listed along with the rate of application. Application rates should normally be expressed in terms of quantity of wastewater applied per cycle, and for spray applications the hourly rate should be listed. The latter rate is particularly important for spray systems because high applications may be damaging to the soil surface.

C.5.c.2. Weekly Application Rates – When the application cycle is other than one week, the additional inclusion of the average weekly rate may be helpful for evaluation. Weekly rates are often used as standards for comparison of similar systems and frequently appear in the literature.

C.5.c.3. Resting or Drying Period – Resting or drying periods are necessary to reestablish aerobic conditions. They should be included as an integral part of the application cycle. Optimum resting periods range from one day or less for some irrigation and overland flow systems up to 20 days for some infiltration-percolation systems. In many cases, longer resting periods are required during the winter months.

C.5.c.4. Rotation of Plots or Basins – To maintain continuous operation and a steady usage of effluent, it is usually advisable to subdivide the application area into a number of independent plots or basins. Wastewater can then be applied to a portion of the area while the remainder is rested or dried. Provision for plot or basin rotation should be included in the plans.

C.6. CROPS/VEGETATION

A description of the crops or vegetation to be grown will be required in the facilities plan for all systems in which vegetation is to be an integral part of the treatment system. This includes all irrigation and overland flow systems, and those infiltration-percolation systems in which the infiltration surfaces are to be vegetated. Evaluations of potential crops that were conducted during the planning stage (I-E.3.) should be reviewed, and important crop characteristics and requirements that were used as a basis for design should be noted. When applicable, the following items should be considered:

- Compatibility of the crop with site characteristics and design loading rates
- Nutrient uptake
- Cultivation and harvesting requirements
- Suitability for meeting health criteria

C.7. SYSTEM COMPONENTS

A large portion of the plans and specifications will be devoted to the system components, such as:

- Preapplication treatment facilities
- Transmission facilities
- Storage facilities
- Distribution system
- Recovery system
- Monitoring system

Design considerations and parameters developed in the planning stage should be reviewed when applicable. Detailed plans for each component will be required and should be evaluated with respect to the considerations listed at the beginning of this section.

C.7.a. Preapplication Treatment Facilities

Detailed plans of the preapplication treatment facilities will be necessary in almost all cases, except those few in which preapplication treatment is not required or existing facilities have been determined to be adequate. In many cases, plans for additions or modifications to existing facilities may be all that are required. In all cases, the expected treatment performance of the facilities must be evaluated in light of the requirements established in the planning stage (I-E.5.).

C.7.b. Transmission Facilities

Detailed plans of the transmission facilities to the site, including piping and pumping facilities, will be required. They should be designed and reviewed in accordance with conventional engineering standards, because they will rarely differ from transmission facilities designed for conventional treatment systems. Consideration must be given to factors such as adequate cover over the pipe for protection, and provisions for flexible joints where the pipe is attached to rigid structures. In addition, consideration must also be given to the purchase and control of easements.

C.7.c. Storage Facilities

In almost all cases, some sort of storage facilities will be necessary, and detailed plans for them will be required. If storage is to be provided for winter flows and storage requirements are high, construction of storage facilities will often be one of the major design components. The design volume should be based on the storage requirements determined during the planning stage (I-E.4.). The plans should be evaluated with respect to capacity and control of potential problems, such as the growth of unwanted aquatic life, odors resulting from anaerobic conditions, and with respect to structural considerations, such as embankment slope stability. Storage facilities must include pump-back provisions and adequate freeboard, and it may possibly be necessary to seal them to prevent percolation, depending upon groundwater conditions.

C.7.d. Distribution System

The distribution system may vary in complexity from systems employing simply gravity flow to infiltration basins to highly complex fixed spray irrigation systems. Standard texts on irrigation [155, 184] provide much information on the design of all types of distribution systems, which may be useful to the reviewer. Potential problems, such as the clogging of nozzles with suspended solids and the susceptibility of above-ground piping to damage by farm machinery, should be anticipated, and mitigation provisions reviewed.

Spray Systems — Distribution for spraying is through pressure pipes or laterals that run from the transmission main into the field. Spray distribution systems may be solid set, buried; solid set, portable; mechanically-moved laterals, such as the side-roll wheel or end-tow type; or continuously moving units such as center pivot systems [114]. Sprinkler irrigation handbooks [114, 115, 155] should be consulted for hydraulic design information. Special emphasis should be given to the potential problems associated with risers, which are often susceptible to damage from a number of causes.

Surface Distribution Systems — For flood or ridge and furrow systems, distribution may be by means of open ditches, buried pipe with riser outlets, or gated pipe. More detailed information may be found in Zimmerman [184].

Drainage of Lines — Drain valves are necessary for most distribution systems to prevent (1) anaerobic conditions from occurring during nonapplication periods, and (2) freezing and breaking of pipes in cold climates. Drain valves should be located at all low points in the system with gravel or tile drains to accept the draining water.

System Controls — A schematic diagram of system controls including piping, pumping, valves, timers, and alarms is necessary. Valve operation and control may be automatic or manual or provisions may be made to operate under either type of control.

C.7.e. Recovery System

Detailed plans should be submitted of any recovery system that is to be employed, such as: underdrainage, pumped withdrawal, or collection of runoff from overland flow systems. It should be evaluated with respect to recovery objectives, site characteristics, and liquid loading rates. Much useful information on the design of recovery systems may be found in Drainage of Agricultural Land [38], and in Bouwer [18, 19].

In cases in which natural drainage channels traverse the site some runoff control features may be required. For irrigation systems these features would be designed for system protection and realiability. Features could entail small dams, reservoirs, or diversion structures to collect or divert partially treated effluent and prevent it from entering surface waters. The extent to which runoff resulting from storms must be retained depends upon the water quality objectives for the surface water, nonpoint source discharge control practices in the hydrologic basin, and the nature and magnitude of the environmental degradation that might result from the discharge.

C.7.f. Monitoring System

Some form of monitoring system will be required in all cases and should be described in detail in the Operation and Maintenance Manual. Plans for physical facilities, such as monitoring wells, sampling taps, and metering equipment, however, should be included in the design and should reflect the monitoring requirements specified in the preliminary plans (I-E.6.c.).

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C.8. DESIGN FLEXIBILITY

The design plans and specifications should be evaluated for flexibility with respect to:

- Provisions for system expansion
- Provisions for system modification
- Interconnections and partial isolation

Specific flexibility features identified in the wastewater management plan (I-E.8.) should be incorporated in the design.

C.8.a. Provisions for System Expansion

Provisions for both planned and unplanned expansion should be incorporated in the design. Staged construction will often be employed over the life of the system to provide for planned expansion. In other cases and for unplanned expansion, components may be designed for additional capacities or so that their capacities may be easily increased. Special consideration should be given to critical components – such as: land availability; and storage, preapplication treatment, and transmission capacities – which may be easily expandable only up to a certain limit.

C.8.b. Provision for System Modification

Various modifications to the system can usually be expected to occur during the life of the system and if possible, should be anticipated in the design. Generally, these modifications will be the result of:

- Knowledge gained through operating experience
- Changes in conditions or treatment requirements
- Technological advances

Design factors, such as loading rates, and physical equipment, such as preapplication treatment and distribution facilities, are among the items that may be subject to modification.

C.8.c. Interconnections and Partial Isolation

Features, such as interconnections and partial isolation systems, that may add to the flexibility of operation should be included in the design when practicable. Various interconnections within and between the transmission system, preapplication treatment facilities, storage facilities, and distribution system are

necessary so that components can be isolated for repair or maintenance. The design should also include provisions to allow the operator to modify operating procedures for special conditions, and apply effluent to certain areas only.

C.9. RELIABILITY

The Technical Bulletin on Design Criteria for Mechanical, Electrical, and Fluid Systems and Component Reliability [35] establishes minimum standards of reliability for three classes of wastewater treatment works. The classes are related to the consequences of degradation of the effluent quality on the receiving navigable waters. Class I involves discharge to navigable waters that could be permanently or unacceptably damaged by effluent that was degraded in quality for only a few hours. Reliability measures for this class include backup requirements for most unit processes. Class II relates to navigable waters that would not be permanently or unacceptably damaged by short-term effluent quality degradations, but could be damaged by continued (on the order of several days) degradation. Class III involves navigable waters not otherwise classified as Reliability Class I or II [35].

Land-application systems that produce an effluent with a point-source discharge would have to attain a reliability commensurate to that of conventional treatment and discharge systems discharging to Class I, II, or III navigable waters. The degree of reliability required of land-application systems will depend on the severity and consequences of environmental degradation or health effects (§-F.1 and F.2). The California standards (Appendix E) relate reliability measures for irrigation systems to the degree of public contact with the treated effluent and the nature of the crop grown.

Various means of ensuring the reliability of the system, including factors of safety, backup systems, and contingency provisions, are discussed in the following paragraphs. An important additional reliability factor is the proper operation and maintenance of the system, which is discussed in Part III. General reliability requirements for all treatment systems are included in Federal Guidelines for Design, Operation and Maintenance of Waste Water Treatment Facilities [50].

C.9.a. Factors-of-Safety

Reasonable factors-of-safety must be included in design components whose normal operation limits, if exceeded, might result in serious adverse effects or impairment of system efficiency. Components that may require factors-of-safety in their design include: loading and application rates, and the capacities for storage, transmission, and preapplication treatment. The magnitude of the factors-of-safety to be employed will vary with the system and will depend on a number of factors, such as: the severity of potential adverse effects, and degree of certainty of design assumptions. When employed, they should be indicated and justified by the engineer.

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C.9.b. Backup Systems

Backup systems or standby units must be provided for critical elements of the system to preclude system failure resulting from:

- Loss of power supply
- Equipment failure
- Failure of a preapplication treatment unit
- Maintenance requirements

Elements that should be provided with backup systems include power sources, pumping facilities, and preapplication treatment units (particularly chlorinators). Interconnections and flexibility of pumping and piping to permit rerouting of flows will often be necessary also.

C.9.c. Contingency Provisions

Provisions must be made in the design for specific, unusual, or emergency conditions that may occur at the site, such as:

- Equipment or unit failure
- Natural disasters (floods, earthquakes, etc.)
- Severe weather
- Unexpected peak flows

The system must be evaluated to determine whether it can be operated satisfactorily under these conditions. Provisions should be included to allow the resumption of normal operation, such as emergency pumping or additional storage capacity.

Section D

EXPECTED TREATMENT PERFORMANCE

The expected treatment performance must be evaluated with respect to both (1) removal efficiencies for major constituents, and (2) remaining concentrations in the renovated water. It should be predicted realistically based on the method of application, degree of preapplication treatment, site characteristics, and design parameters. Fluctuations in performance during loading cycles or as a result of seasonal climatic variations, should be considered.

D.1. REMOVAL EFFICIENCIES FOR MAJOR CONSTITUENTS

The removal efficiencies, or the percentage reduction in concentration of each of the major wastewater constituents must be estimated. Removal efficiencies, based on data derived from operating systems, that may be expected for well-designed and properly maintained, irrigation, overland flow, and infiltration-percolation systems are given in Table 12. Predicted efficiencies should be estimated for each constituent, and a description of the removal mechanism, particularly for constituents such as nitrogen, where removal efficiencies are highly variable, should be included either in the project report or a supplement. The values in Table 12 are presented for evaluation, not design purposes. Design values must be developed on a case-by-case basis. Factors such as changing climatic conditions or changing operating procedures that may cause fluctuations or permanent changes in the removal efficiencies should be identified. Expected long-range changes, such as those resulting from exhaustion of the ion-exchange capacity of the soil, should be identified and provisions made for soil amendment additions, upgrading or preapplication treatment, or cessation of application.

Table 12. REMOVAL EFFICIENCIES OF MAJOR CONSTITUENTS FOR MUNICIPAL LAND-APPLICATION SYSTEMS

	Removal efficiency, %		
	Application method		
Constituent	Irrigation	Overland flow	Infiltration-percolation
BOD	98+	92+	85-99
COD	95+	80+	50+
Suspended solids	98+	92+	98+
Nitrogen (total as N)	85+	70-90	0-50
Phosphorus (total as P)	80-99	40-80	65-95
Metals	95+	50+	50-95
Microorganisms	99+	98+	98+

Expected removal efficiencies must be determined for each individual case based on the wastewater characteristics, site characteristics, and specific design features. For example, consider phosphorus removal for an overland flow system. Assuming that the total concentration after preapplication treatment is known, what removal efficiency can be expected? Without pilot work to serve as a basis for estimation, a review of the literature must be used. Representative reports dealing with phosphorus removal include those by Law [84], Kirby [76], Thomas [164], and Hunt [67]. To properly assess the expected removal, comparisons must be made of the systems described in the literature with the system in question on the following points:

- Total concentration applied to the land
- Total annual loading, lb/acre/yr
- Percentage of applied wastewater appearing as runoff
- Soil type
- Evapotranspiration
- Amount of percolation
- Crop type and uptake of phosphorus
- Was the crop removed from the field?
- Application cycle
- Length of the runoff slope
- Amount of rainfall during period of measurement

Obviously, few of the conditions will be comparable so that some engineering judgment will be required. Each removal mechanism (II-E.1.c.), such as crop uptake, microbial uptake, and fixation by the soil, must be investigated and the expected removals estimated.

The process of determining expected removal efficiencies can often be complex. The degree of detail expected in deriving these estimates will depend on the impact of the constituent on the environment and the concentration required in the renovated water.

D.2. REMAINING CONCENTRATIONS IN RENOVATED WATER

The remaining concentrations of the major constituents in the renovated water should be determined from concentrations of the wastewater applied and the predicted removal efficiencies. They should be compared to the concentrations required for the receiving waters, either groundwater or surface water, or to requirements for further reuse. Generally, to be acceptable, the concentrations should be well within the limits of stated requirements.

PART III

OPERATION AND MAINTENANCE MANUAL

Section A

EPA – CONSIDERATIONS FOR PREPARATION OF OPERATION AND MAINTENANCE MANUALS

Operation and maintenance manuals should generally be prepared in accordance with the suggested guidelines presented in the EPA publication Considerations for Preparation of Operation and Maintenance Manuals [61], which is hereafter referred to as the "Considerations Manual." They should be reviewed and evaluated by means of the checklist included in the Considerations Manual, and with regard to special considerations for land-application systems presented in this and the following sections.

Discussion of the information that should be included in operations and maintenance manuals for land-application systems is presented in the following subsections by suggested chapter titles. Detailed discussion of information concerning operating procedures, monitoring, and impact control is contained in Sections B, C, and D. The format suggested herein and in the Considerations Manual is intended to be flexible and may be modified to fit the particular system at hand. The uniqueness of many land-application systems must be reflected in the operation and maintenance manuals, and greater-than-normal emphasis must be placed on their preparation, especially in the explanation of the unique aspects.

A.1. INTRODUCTION

The introduction to an operation and maintenance manual should include:

- A manual user guide
- Summaries of operation and managerial responsibilities
- Description of the treatment concept employed and treatment requirements
- Explanation of flow patterns

A discussion of the contents of the introductory chapter and examples showing the scope of information that should be included is contained in the Considerations Manual.

The description of treatment requirements should highlight requirements with respect to groundwater including meeting requirements of BPT for groundwater protection, as well as effluent limitations for that portion of the renovated water that may be recovered.

In many cases, a brief summary of basic land-application principles may be helpful, particularly for users of the manual who have had experience only with conventional treatment systems.

A.2. PERMITS AND STANDARDS

The chapter on permits and standards should include:

- Discharge permit and permit requirements (for point-source discharges)
- Reporting procedures for spills of raw or inadequately treated sewage
- Water-quality standards

The suggested contents of the chapter are discussed in the Considerations Manual and are applicable, at least in part, to most land-application systems. Special consideration must be given to standards relating to the groundwater.

A.3. DESCRIPTION, OPERATION AND CONTROL OF WASTEWATER TREATMENT FACILITIES

This chapter will be the heart of the operation and maintenance manual in which each component of the land-application system is described, and the operation and control procedures are detailed. The chapter should be subdivided by components, with the following subdivisions suggested for land-application systems in place of those suggested on page 56 of the Considerations Manual:

- Preapplication treatment facilities
- Transmission system
- Storage facilities
- Application of effluent
- Soils and plants
- Recovery systems

The major system components should be subdivided into units to allow a thorough description and to aid in understanding the interactions of the various units.

Information that should be presented for each individual component includes:

- Description of component and major subcomponents
- Relationship to adjacent components
- Methods of control
- Startup
- Normal operation
- Common operating problems
- Alternate operation
- Emergency operations and failsafe procedures
- Monitoring and laboratory controls

The preceding list has been slightly modified from the one suggested in the Considerations Manual; however, the discussion and examples contained therein are generally applicable for land-application systems. It is expected that further modification will be necessary or desirable for various components of many systems.

Additional considerations pertinent to the content of this chapter are discussed in Sections B, C, and D.

A.4. DESCRIPTION, OPERATION AND CONTROL OF SLUDGE-HANDLING FACILITIES

Sludge-handling facilities should be described and operating and control procedures should be outlined in this chapter. The extent and significance of the chapter will be highly variable and will depend upon the method and degree of preapplication treatment to be employed. In many cases, the entire chapter may be unnecessary if sludge-handling facilities are not complex and are included in the previous chapter (III-A.3.).

A.5. PERSONNEL

Personnel requirements should be discussed with respect to:

- Manpower requirements/staff
- Qualifications
- Certification

Consideration must be given to special skills and qualifications necessary for land-application systems, such as those relating to agricultural practices and groundwater monitoring. In all other respects, the discussion in the Considerations Manual is generally applicable to land-application systems.

A.6. LABORATORY TESTING

The material to be presented on the laboratory testing program should generally include:

- The purpose of the sampling program
- The sampling schedule
- The list of operation/laboratory references
- Interpretation of laboratory tests
- Sample laboratory worksheets

The suggested format and discussion of the laboratory testing program contained in the Considerations Manual are applicable in most respects to most land-application systems; however, a wider range of tests, such as those to determine the uptake of certain constituents by crops, and various soils tests are often necessary. Additional specific considerations for land-application systems are discussed later in Section C.

A.7-A.13. REMAINING MANUAL CHAPTERS

The remaining chapters to be included in the operation and maintenance manual will normally deal with:

A.7. Records

A.8. Maintenance

A.9. Emergency Operating and Response Program

A.10. Safety

A.11. Utilities

A.12. Electrical System

A.13. Appendixes

Each is discussed in detail in the Considerations Manual, and is generally applicable to all wastewater treatment systems, including those employing land application. Modification of the suggested format may be necessary or desirable in many cases so that the manual may be tailored to fit each system.

Section B

OPERATING PROCEDURES

A number of special topics concerning operating procedures for land-application systems are discussed in this section, including:

- Application of effluent
- Agricultural practices
- Recovery of renovated water
- Storage
- Special problems and emergency conditions

Operating procedures for system components that are generally common to conventional systems, such as those for preapplication treatment facilities, are not discussed.

B.1. APPLICATION OF EFFLUENT

The procedures for the application of effluent to the land must be clearly defined because many distribution systems will be unique and the operators must be able to vary the application in response to environmental changes. Descriptions of the application system and the operating procedure should be included in Chapter 3 of the operation and maintenance manual. Considerations relating to both the distribution system and the schedule of application are discussed in the following paragraphs.

B.1.a. Distribution System

The distribution system should be described and the operating and control procedures outlined in a manner similar to the other components, as described previously in Subsection III-A.3. For most systems, including those for overland flow and infiltration-percolation facilities, operating procedures will be based primarily on standard irrigation practices. Standard references on irrigation [115, 155, 184] should be consulted along with manufacturer's operating instructions. Valve sequences, operating pressures, startup and shutdown procedures should be detailed. Solution of typical problems that may be encountered with the distribution of wastewater, such as the clogging of nozzles with suspended solids, should be included.

B.1.b Schedule of Application

Because this portion of the manual will be referred to frequently, it is imperative that application schedule details be presented clearly. Effluent application schedules should be presented in terms of the rates, periods of application and resting, and seasonal variations as developed in the design (II-C.6.). Also included should be the sequence of rotation of plots or basins, seasonal variations in rotation, and descriptions of conditions that may require temporary cessation of application. The range of acceptable application rates and ratios of resting to wetting should be included as a guide to assist operators in making necessary operational changes.

B.2. AGRICULTURAL PRACTICES

Operating procedures relating to agriculture will play a major role in the operation of irrigation systems, and a lesser but still significant role for overland flow and infiltration-percolation systems. Procedures regarding agricultural practices should normally be described under "soils and plants" in Chapter 3 of the manual (III-A.3.). Factors relating to agriculture that are discussed in this section include:

- Purpose of the crop
- Description of crop requirements
- Planting, cultivation, and harvesting

B.2.a. Purpose of the Crop

The purpose for which vegetation is to be grown should be stated clearly in the manual so that the system may be operated to best achieve that goal. The primary consideration of importance to the operator is whether optimization of crop yields or maximization of renovation and effluent application is to be emphasized. Other desired results, such as increased infiltration rates, and combinations of desired results should also be described.

B.2.b. Description of Crop Requirements

Crop requirements should be specified with respect to:

- Water requirements and tolerance
- Nutrient requirements
- Necessary soil amendments

- Climatic conditions
- Public health requirements

Methods for evaluating crop performance with respect to these requirements and operating procedures to ensure that the requirements are met should be described.

B.2.c. Planting, Harvesting, and Cultivation

Procedures should be described for all aspects of crop management, including: planting, harvesting, and cultivation. A general schedule for crop management should be included, and methods of determining optimum dates for planting, harvesting, and cultivation should be explained. Related events and requirements, such as the requirement for ceasing application a certain number of days prior to harvesting, should also be described.

B.3. RECOVERY OF RENOVATED WATER

Operating procedures for the recovery of renovated water should be described for all systems which employ: (1) pumped withdrawal, (2) tile drainage, or (3) collection of runoff from overland flow. Detailed considerations for the operation and maintenance of recovery systems are presented in various references, most notably in Drainage of Agricultural Land [38]. Standard procedures, operating parameters, and methods of control should be listed for both normal flow conditions and peak flows. Quality monitoring and discharge requirements should also be listed. Any point source municipal discharge requires a permit under the NPDES program. Systems built with EPA construction grant funds are controlled by conditions of the construction grant. Special procedures for unusual or emergency conditions, such as the collection and storage of contaminated storm runoff for later application, should be described.

B.4. STORAGE

Storage of effluent to be applied will often present special problems for land-application systems, in that large volumes of water must frequency be stored for long periods of time. For this reason, procedures for the operation of the effluent storage facilities should be described in detail. If the potential for special problems, such as odors resulting from anaerobic conditions or the growth of unwanted aquatic life exists, special procedures and methods of control should be included.

B.5. SPECIAL PROBLEMS AND EMERGENCY CONDITIONS

Operating procedures for special problems and emergency conditions should be described in Chapter 9 of the manual. Design features with respect to flexibility (II-C.8.) and reliability (II-C.9.) will form the basis for any special operating procedures that may be required.

Section C
MONITORING

The monitoring requirements of a land-application system must receive special consideration, because of the wide variety and complexity of parameters and effects that should be analyzed. Requirements should be described with respect to each system component in Chapter 3 of the Operations and Maintenance Manual and with respect to laboratory testing in Chapter 6. If the monitoring requirements are complex, it may be appropriate to devote an entire chapter to the monitoring program or to expand Chapter 6 (Laboratory Testing) to include a description of the entire program.

In the following subsections, monitoring considerations that should be included in the operation and maintenance manual are discussed with respect to:

- Parameters to be monitored
- Monitoring procedures
- Interpretation of results

C.1. PARAMETERS TO BE MONITORED

As in most conventional treatment facilities, concentrations of certain constituents should be monitored at various stages in the treatment process. Generally, for land-application systems, water quality should be analyzed at the following stages:

- Influent into the system
- Following preapplication treatment
- Following storage
- Groundwater
- Recovered water (from pumped withdrawal, underdrains, or collected runoff from overland flow)

Water-quality parameters that must be analyzed at each of these stages will vary. Monitoring at the first three stages will be primarily for system control and optimization purposes. Consequently, the parameters to be analyzed will be those identified as indexes of previous treatment efficiency, and those that may indicate the requirement for operational adjustments during subsequent treatment processes.

Water quality parameters that should be analyzed in the groundwater are those: (1) given in the proposed Criteria for Water Quality [29], or any revisions thereof, (2) required by state or local agencies, (3) given in the report on Alternative Waste Treatment Management Techniques for Best Practicable Waste Treatment [3] and any revisions thereof, and (4) necessary for system control. Monitoring requirements for recovered water will depend upon the disposition of that water. If the water is to be discharged, the parameters to be analyzed must include those required in the NPDES permit. If the water is to be reused, analysis of additional parameters may be required by cognizant public health agencies.

In addition, a variety of other system effects, in some cases, should also be monitored both at the site and in the surrounding area. These include:

- Groundwater levels and direction of flow (I-C.2.e.)
- Physical and chemical soil characteristics (I-C.2.c.1)
- Growth and production characteristics of crops or vegetation
- Various environmental effects (on adjacent land, animal and insect lives, etc.)

C.2. MONITORING PROCEDURE

Detailed procedures for monitoring must be described for each aspect of the monitoring program, including the location of sampling points, and the frequency of sampling. Descriptions of the appropriate laboratory tests, where the test is to be performed, and by whom, should be included in Chapter 6 for each parameter that is to be monitored. The type of scope of information that is being sought should be described. Blakeslee [14] presents some suggested procedures for groundwater monitoring.

C.3. INTERPRETATION OF RESULTS

Charts, graphs, ranges of satisfactory values, and upper limits requiring remedial action must be included for each major parameter where applicable. A range of results that are to be expected during normal operation should be indicated, along with those results that may be an indication of a malfunction in the system. Whenever possible, indications of malfunctions should be related to appropriate measures of control and corrective procedures (III-D.3).

During the initial years of operation, monitoring results should be analyzed and reviewed with the designer or various specialists. For example, interpretation of groundwater data by a geohydrologist may be necessary. Results that should be referred to personnel outside the normal operating staff should be identified.

C.4. SURVEILLANCE AND REPORTING

Those results which relate directly to NPDES permits or other requirements should be specifically noted, as should results which come under the surveillance of various agencies such as state or local water resource boards or public health agencies.

Section D

IMPACT CONTROL

An important consideration in the review of the operation and maintenance manual is whether the control of potential adverse effects has been adequately addressed. Each potential adverse effect that was identified in the facilities plan and environmental assessment (I-F.) should be considered. Aspects of impact control that should be included are:

- Description of possible adverse effects
- Indexes of critical effects
- Methods of control
- Methods of remedial action

D.1. DESCRIPTION OF POSSIBLE ADVERSE EFFECTS

All possible adverse effects of the system, including environmental, public health, social, and economic effects that were previously identified in either the planning or design stage should be identified and described. The introductory section of Chapter 3 of the manual is suggested as a reasonable place to present this information. In addition, possible adverse effects that may result from any one particular component of the system should be discussed in Chapter 9.

D.2. INDEXES OF CRITICAL EFFECTS

Critical effects of a treatment system are those adverse impacts that must be controlled. Whenever possible, these indexes or first indications of critical effects should be described. They should be related to:

- Results of monitoring program
- Unusual or emergency conditions at the site
- Malfunction of various system components
- General observations of the operator

Provisions should be made so that the overall effects of the system based on all available information can be routinely monitored.

D.3. METHODS OF CONTROL

Methods of control should be described with respect to both normal operating controls and procedures, and adjustments or modifications to those procedures for each possible adverse effect. For example, elimination of standing water on the application area will normally be a standard procedure for most systems; however, it is also a method of control for mosquito breeding. Generally, each method of control should be described by component in Chapter 3 of the manual (III-A.3.) and should be specifically related to the effect it controls (III-D.1.), and to the indication of that effect (III-D.2.).

A convenient way of relating indications of critical effects to the appropriate methods of control is through the inclusion of a section on troubleshooting. Provisions should be included for the periodic reevaluation of control methods, particularly for the control of long-range effects. It should, however, be emphasized that land application is a dynamic process and that monitoring results will often be variable. Consequently, control measures that take trends into account should be employed.

D.4. METHODS OF REMEDIAL ACTION

Remedial actions should be described for the various adverse effects that may result from system or component failure, accidents, and other unusual or emergency conditions. The objectives of these actions should be to prevent or minimize the adverse effects when emergency conditions are encountered, or to correct the situation once damage has been done. Depending on the system, necessary remedial actions may generally be described in Chapter 9 of the manual, Emergency Operating and Response Program (III-A).

APPENDIXES

Appendix A
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Appendix B

SELECTED ANNOTATED BIBLIOGRAPHY

In this appendix, 17 references that may be of value to the reviewer are listed and briefly described. The first three references provide an assessment of the state-of-the-art of land application and the fourth is an extensive annotated bibliography. Following the existing guidelines for operation and maintenance manuals are a group of three proceedings from recent conferences, each with a number of papers by various authors, in which a wide range of different topics are addressed. The remaining references include technical handbooks and individual papers which address a number of specific topics.

1. Pound, C. E. and R. W. Crites. Wastewater Treatment and Reuse by Land Application, Volumes I and II. Office of Research and Development, Environmental Protection Agency. August 1973.

In the summary report (Volume I), the results of a nationwide study conducted on the current knowledge and techniques of land application are given. Factors involved in system design and operation are discussed for irrigation, overland flow, and infiltration-percolation methods. In addition, evaluations are made of environmental effects, public health considerations, and costs.

In Volume II, detailed examinations are made of the literature and the selected sites visited. The relationship between climate and land application is examined. The state-of-the-art of land application of industrial wastewater is also reported. In addition, sections on cost evaluation, and land-application potential, and histories of several cases of irrigation abandonment are included.

2. Sullivan, R. H., et al. Survey of Facilities using Land Application of Wastewater. Office of Water Program Operations, Environmental Protection Agency. July 1973.

The results of a field survey of 63 municipal and 19 industrial systems in 1972 using irrigation with wastewater are presented in this report. The data collected are analyzed statistically using five climatic zones for the U. S. Abstracts from foreign experience and a state-by-state summary of health regulations are included. The appendix material is quite valuable since it includes all the raw data from the visits plus narratives and results of a parallel mail survey of 78 municipalities and 36 industries. Also appended are two excellent papers by Richard E. Thomas, soil scientist with the EPA.

3. Reed, S. C. Wastewater Management by Disposal on the Land. Special Report 171. Cold Regions Research and Engineering Laboratory. U.S. Army Corps of Engineers. May 1972.

This state-of-the-art review considers three land disposal techniques: spray irrigation, overland runoff, and rapid infiltration. Each technique is considered in detail, including such aspects as wastewater characteristics, water-quality goals, site conditions, operational criteria, and ecosystem response. The concept of renovative capacity is introduced in which the assumption is that there is a finite depth of soil in which major renovation occurs. The report was prepared by a multidisciplined team including hydrologists, geologists, climatologists, soil scientists, and sanitary engineers. The emphasis is on environmental responses to land application, but design components are discussed.

4. Land Application of Sewage Effluents and Sludges: Selected Abstracts. Office of Research and Development, Environmental Protection Agency. 1974.

This document is a combined annotated bibliography of a wide range of subject-matter related to application of sewage effluents and sludges to the land. Using the EPA document, Agricultural Utilization of Sewage Effluent and Sludge (prepared by Dr. Law) as a basis, inputs were received from (1) the state-of-the-art study by Pound and Crites [125], (2) the literature survey by Sullivan [160], (3) the Joint Conference at the University of Illinois (see No. 8), and (4) the state-of-the-art assessment of sludge spreading conducted by Battelle Columbus. These selected abstracts have been indexed by author, title, and location (for case studies). A strict division has been made between abstracts dealing with effluents and those dealing with sludges.

5. Green, R. L., G. L. Page, Jr., and W. M. Johnson. Considerations for Preparation of Operation and Maintenance Manuals. Office of Water Program Operations, Environmental Protection Agency.

In these guidelines, general considerations for the preparation of operation and maintenance manuals are presented, and a format for the manual is suggested. Each of the twelve chapters from the suggested format is then described in detail with respect to content, scope, and useful references. Checklists are included for evaluating the operation and maintenance manuals for both municipal wastewater treatment facilities, and for pumping station and/or pipelines. In addition, guidelines for estimating manual preparation costs are included.

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6. Sopper, W. E. and L. T. Kardos, (ed.). Recycling Treated Municipal Wastewater and Sludge through Forest and Cropland. University Park, Pennsylvania. The Pennsylvania State University Press. 1973.

The proceedings of a symposium co-sponsored by the Pennsylvania State University, the U. S. Department of Agriculture (Forest Service), and the Environmental Protection Agency, and held in 1972 are presented in this book. Thirty-two separate papers are included, with topics ranging from the fundamentals of soil treatment systems to research needs. Wastewater quality changes during recycling, and responses of the soil, vegetation, and other elements of the ecosystem are discussed. Examples of several operating and proposed systems are reported, and the status of guidelines for land disposal of wastewater are discussed.

7. Proceedings of Conference on Land Disposal of Municipal Effluents and Sludges. Rutgers University. March 1973.

Current research and studies on land application of municipal effluents and sludges are reported in nineteen separate papers. Overviews of land treatment are presented from the viewpoint of the Environmental Protection Agency, an environmentalist, and a state regulatory director. Topics relating to the current knowledge of wastewater characteristics, fate of materials applied, and public health effects are addressed. Preliminary results of Environmental Protection Agency research and state-of-the-art studies are also given.

8. Proceedings of the Joint Conference on Recycling Municipal Sludges and Effluents on Land. Champaign, Illinois. July 1973.

This document includes information gathered at the Research Needs Workshop, sponsored by the ad-hoc subcommittee of EPA-USDA-Universities representatives. In addition to reports of the ten workshop sessions, twenty-four individual papers on aspects of soil treatment ranging from inorganic reactions in the soil to public acceptance of new systems are presented. Soil-plant relationships, and crop and food chain effects are described. Some of the capabilities of the Soil Conservation Service and the Agricultural Extension Service are outlined and some informal opinions on the outlook of the Food and Drug Administration are given.

9. Pair, C. H. (ed.). Sprinkler-Irrigation. 3rd Edition and Supplement. Silver Spring. Sprinkler Irrigation Association. 1969 and 1973.

In this book, all aspects of spray irrigation design from pumping plants to distribution systems are discussed. Besides crop irrigation, uses of sprinklers such as for environmental control (frost and heat control), fertilizer, and chemical applications, waste disposal, and fire protection are delineated. Soil-plant-water relations are explained with all current techniques for management of irrigation. Irrigation water requirements for many crops are included along

with methods for determining water demands. The text is especially useful in the hydraulic design of sprinkler systems.

The supplement, published in 1973, consists of an additional four chapters including (1) turf irrigation, (2) continuously moving mechanical sprinkler systems, (3) land application of liquid wastes (good design advice), and (4) thermoplastic pipe.

10. Zimmerman, J. P. Irrigation. John Wiley & Sons, Inc. New York. 1966.

In this book, Zimmerman presents a comprehensive engineering approach to the design of irrigation systems. All aspects of the system are discussed, and a wide range of design elements is described for each of the irrigation methods (corrugation and furrow, border strip, sprinkling, flush flood spreading, and subirrigation). Other elements that are related to the system, such as reservoirs, canals, pumping, piping, and measuring devices, are also described.

11. Drainage of Agricultural Land. Soil Conservation Service, U. S. Department of Agriculture. Water Information Center, Inc. 1973.

This handbook, which was reproduced from the SCS National Engineering Handbook, presents a complete discussion of drainage principles as well as detailed descriptions of design features. Both surface and subsurface drainage are considered. In addition, sections on dikes, drainage pumping, drainage of organic soils, and drainage of tidal lands are included.

12. Chapman, H. D., (ed.). Diagnostic Criteria for Plants and Soils. Abilene, Quality Printing Company, Inc. 1965.

In this comprehensive reference, the effects of a large number of elements on plants and soils are described. Methods for diagnosing the existing status (deficiencies or toxic levels) and control provisions are described for each element. The effects of alkali and saline soils, and organic soil toxins are also considered. In addition, an extensive table is included, which shows levels of various elements (ranging from deficient to toxic levels) for a large number of plants.

13. Thomas, R. E. and C. C. Harlin, Jr. Experiences with Land Spreading of Municipal Effluents. First Annual IFAS Workshop on Land Renovation of Wastewater in Florida. Tampa, Florida. June 1972.

An overview of the use of land application as a treatment process is presented, in which the three major methods (infiltration-percolation, cropland irrigation, and spray-runoff) are defined. The general applicability and potential of each method are discussed, and Environmental Protection Agency-sponsored research projects are described.

14. Thomas, R. E. Spray-Runoff to Treat Raw Domestic Wastewater. International Conference on Land for Waste Management. Ottawa, Canada. October 1973.

Field studies conducted by the Environmental Protection Agency at Ada, Oklahoma, in which the capabilities of a spray-runoff (overland flow) system were evaluated, are described. During the 18-month study period, comminuted raw wastewater was applied to three experimental plots at varying loading rates. Results of the study are discussed, with removal efficiencies being reported for: COD, BOD, TOC, nitrogen, phosphorus, and suspended solids.

15. Bouwer, H., R. C. Rice, and E. D. Escarcega. Renovating Secondary Sewage by Ground Water Recharge with Infiltration Basins. Office of Research and Monitoring, Environmental Protection Agency. March 1972.

A five year infiltration-percolation demonstration project at Flushing Meadows, Arizona, is detailed in this report. The feasibility of renovating activated sludge effluent was studied using six parallel basins in loamy sand. The wide variety of application schedules that were tried are described in the report, and results of the groundwater analyses are given with respect to: suspended solids, BOD, fecal coliform, nitrogen, phosphorus, fluorides, boron, and heavy metals. Special emphasis is given to nitrogen removal.

16. Law, J. P., R. E. Thomas, and L. H. Myers. Cannery Wastewater Treatment by High-Rate Spray on Grassland. Journal WPCF, 42, No. 9, pp 1621-1631. 1970.

A one-year study of an industrial spray-runoff (overland flow) system in Paris, Texas, is described in this report. Four separate plots of varying slopes, lengths, soil conditions, and periods of operation were studied. Summaries of quality analyses are presented for the wastewater applied, system effluent, and soil water. Removal efficiencies are presented with respect to: BOD, COD, suspended solids, nitrogen, and phosphorus.

17. Kirby, C. F. Sewage Treatment Farms. Department of Civil Engineering. University of Melbourne. 1971.

In this paper, the three methods of treating wastewater from the City of Melbourne – land filtration, grass filtration, and lagooning – are discussed. The land filtration process consists of pasture irrigation with grazing by cattle and sheep. Grass filtration, known in the United States as overland flow, is notable because it is the only known full-scale system using municipal wastewater. Also of note is the fact that in this system wastewater is applied by flooding, as opposed to spraying, which is the only application method presently employed by U. S. industries. Loadings and removals of various wastewater constituents are included in the paper.

Appendix C

GLOSSARY OF TERMS, ABBREVIATIONS, SYMBOLS, AND CONVERSION FACTORS

TERMS

Adsorption — A process in which soluble substances are attracted to and held at the surface of soil particles.

Aerosol — A suspension of fine solid or liquid particles in air or gas.

Alkali soil — A soil with a high degree of alkalinity (pH of 8.5 or higher) or with a high exchangeable sodium content (15 percent or more of the exchange capacity), or both.

Application rate — The rate at which a liquid is dosed to the land (in./hr, ft/yr, etc.).

Aquifer — A geologic formation or stratum that contains water and transmits it from one point to another in quantities sufficient to permit economic development.

Border strip method — Application of water over the surface of the soil. Water is applied at the upper end of the long, relatively narrow strip.

Conductivity — Quality or capability of transmitting and receiving. Normally used with respect to electrical conductivity (EC).

Consumptive use — Synonymous with evapotranspiration.

Contour check method — Surface application by flooding. Dikes constructed at contour intervals to hold the water.

Conventional wastewater treatment — Reduction of pollutant concentrations in wastewater by physical, chemical, or biological means.

Drainability — Ability of the soil system to accept and transmit water by infiltration and percolation.

Evapotranspiration — The unit amount of water used on a given area in transpiration, building of plant tissue, and evaporation from adjacent soil, snow, or intercepted precipitation in any specified time.

Field area – Total area of treatment for a land-application system including the wetted area.

Fixation – A combination of physical and chemical mechanisms in the soil that act to retain wastewater constituents within the soil, including adsorption, chemical precipitation, and ion exchange.

Flooding – A method of surface application of water which includes border strip, contour check, and spreading methods.

Grass filtration – See overland flow.

Groundwater – The body of water that is retained in the saturated zone which tends to move by hydraulic gradient to lower levels.

Groundwater table – The free surface elevation of the groundwater; this level will rise and fall with additions or withdrawals.

Infiltration – The entrance of applied water into the soil through the soil-water interface.

Infiltration-percolation – An approach to land application in which large volumes of wastewater are applied to the land, infiltrate the surface, and percolate through the soil pores.

Irrigation – Application of water to the land to meet the growth needs of plants.

Land application – The discharge of wastewater onto the soil for treatment or reuse.

Lithology – The study of rocks; primarily mineral composition.

Loading rate – The average amount of liquid or solids applied to the land over a fixed time period, taking into account periodic resting.

Lysimeter – A device for measuring percolation and leaching losses from a column of soil. Also a device for collecting soil water in the field.

Micronutrient – A chemical element necessary in only small amounts (less than 1 mg/l) for microorganism and plant growth.

Mineralization – The conversion of an element from an organic form to an inorganic form as a result of microbial decomposition.

Overland flow – Wastewater treatment by spray-runoff (also known as "grass filtration" and "spray runoff") in which wastewater is sprayed onto gently sloping, relatively impermeable soil that has been planted to vegetation. Biological oxidation occurs as the wastewater flows over the ground and contacts the biota in the vegetative litter.

Pathogenic organisms – Microorganisms that can transmit diseases.

Percolation – The movement of water beneath the ground surface both vertically and horizontally, but above the groundwater table.

Permeability – The ability of a substance (soil) to allow appreciable movement of water through it when saturated and actuated by a hydrostatic pressure.

Phytotoxic – Toxic to plants.

Primary effluent – Wastewater that has been treated by screening and sedimentation.

Ridge and furrow method – The surface application of water to the land through formed furrows; wastewater flows down the furrows and plants may be grown on the ridges.

Saline soil – A nonalkali soil containing sufficient soluble salts to impair its productivity.

Secondary treatment – Treatment of wastewater which meets the standards set forth in 40 CFR 133.

Sewage farming – Originally involved the transporting of sewage to rural areas for land disposal. Later practice included reusing the water for irrigation and fertilization of crops.

Soil texture – The relative proportions of the various soil separates – sand, silt, and clay.

Soil water – That water present in the soil pores in an unsaturated zone above the groundwater table.

Spraying – Application of water to the land by means of stationary or moving sprinklers.

Spray-runoff – See overland flow.

Tilth – The physical condition of a soil as related to its ease of cultivation.

Transpiration – The net quantity of water absorbed through plant roots that is used directly in building plant tissue, or given off to the atmosphere.

Viruses – Submicroscopic biological structures containing all the information necessary for their own reproduction.

Wetted area – Area within the spray diameter of the sprinklers.

ABBREVIATIONS

acre-ft – acre-foot

BOD – biochemical oxygen demand

BPT – best practicable treatment technology

cm – centimeter

COD – chemical oxygen demand

cu. m – cubic meter

deg C – degree Centigrade

deg F – degree Fahrenheit

EC – electrical conductivity

ECdw – maximum EC of drainage water permissible for plant growth

ECe – EC of saturation extract (from soil)

ECw – EC of irrigation water

ENRCC – Engineering News-Record construction cost (index)

FDA – Food and Drug Administration

fps – feet per second

ft – foot

gal. – gallon

gpm – gallons per minute

ha – hectare

hr – hour

in. – inch

kg – kilogram

l – liter

lb – pound

m – meter

max – maximum

mgd – million gallons per day

mg/l – milligrams per liter

min – minute

ml – milliliter

mm – millimeter

mmho/cm – millimhos per centimeter

MPN – most probable number

ppm – parts per million

psi – pounds per square inch

SAR – sodium adsorption ratio

SCS – Soil Conservation Service

sec – second

sq ft – square foot

SS – suspended solids

STPCC – sewage treatment plant construction cost (index)

TOC – total organic carbon

TDS – total dissolved solids

USDA – U.S. Department of Agriculture

USGS – U.S. Geological Survey

wk – week

yr – year

SYMBOLS

B	– boron
Ca	– calcium
Cu	– copper
K	– potassium
Fe	– iron
Mg	– magnesium
Mn	– manganese
N	– nitrogen
Na	– sodium
NH_3	– ammonia
NO_3	– nitrate
P	– phosphorus
S	– sulfur
Zn	– zinc
>	– greater than
<	– less than
μ	– micro

CONVERSION FACTORS

million gallons x 3.06 = acre-feet

acre-inch x 27,154 = gallons

mg/l x ft/yr x 2.7 = lb/acre/yr

mgd x 43.814 = l/s

million gallons x 3785 = cu.m

acre x 0.4047 = ha

acre-feet x 1234 = cu. m

lb/acre x 1.121 = kg/ha

inch x 2.540 = cm

ft x 30.48 = cm

Appendix D

TYPICAL SUMMARY OF DESIGN CRITERIA FOR LAND-APPLICATION SYSTEMS

Table D-1. IRRIGATION

Item	Unit[a] English	Unit[a] Metric	Value
Flow			
Design flow, avg annual	mgd	l/s	____
Design peak flow	mgd	l/s	____
Field area	acres	hectares	____
Water balance			
Design total annual precipitation[b]	in. /yr	cm/yr	____
Return period	yr	yr	____
Design evapotranspiration	in. /yr	cm/yr	____
Design percolation rate	in. /yr	cm/yr	____
Effluent application rate[c]	in. /yr	cm/yr	____
Nitrogen (as N) loading rate[c]	lb/acre/yr	kg/ha/yr	____
Other constituent loading rate[c]	lb/acre/yr	kg/ha/yr	____
Effluent water quality			
TDS	mg/l	mg/l	____
Sodium adsorption ratio	SAR	SAR	____
Application rates			
Length of operating season	wk/yr	wk/yr	____
Hourly rate (spray application)	in. /hr	cm/hr	____
Application period	hr	hr	____
Application cycle[d]	day	day	____
Avg weekly rate	in. /wk	cm/wk	____
Max weekly rate[e]	in. /wk	cm/wk	____
Storage capacity	mg	cu m	____
Rate of recovery of renovated water	mgd	l/s	____

a. Typical units are given with a choice between English and Metric systems.

b. When design values of different return periods are used for determining liquid loading rates and storage capacities, both values should be shown.

c. If critical, indicate with an asterisk.

d. Combination of one application period and one drying period.

e. Includes additional flow from storage withdrawal.

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Table D-2. INFILTRATION-PERCOLATION

Item	Unit[a] English	Unit[a] Metric	Value
Flow			
Design flow, avg annual	mgd	l/s	_____
Design peak flow	mgd	l/s	_____
Field area	acres	hectares	_____
Water balance			
Design total annual precipitation[b]	in./yr	cm/yr	_____
Return period	yr	yr	_____
Design evapotranspiration	in./yr	cm/yr	_____
Design percolation rate	in./yr	cm/yr	_____
Effluent application rate[c]	in./yr	cm/yr	_____
Design runoff rate	in./yr	cm/yr	_____
Organic (BOD) loading rate[c]	lb/acre/yr	kg/ha/yr	_____
Nitrogen (as N) loading rate[c]	lb/acre/yr	kg/ha/yr	_____
Phosphorus loading rate[c]	lb/acre/yr	kg/ha/yr	_____
Other constituent loading rate[c]	lb/acre/yr	kg/ha/yr	_____
Application rates			
Length of operating season	wk/yr	wk/yr	_____
Avg weekly rate	in./wk	cm/wk	_____
Max weekly rate	in./wk	cm/wk	_____
Application period	hr	hr	_____
Resting period	hr	hr	_____
Storage	mg	cu m	_____
Rate or recovery of renovated water	mgd	l/s	_____

a. Typical units are given with a choice between English and Metric systems.

b. When design values of different return periods are used for determining liquid loading rates and storage capacities, both values should be shown.

c. If critical, indicate with an asterisk.

Table D-3. OVERLAND FLOW

Item	Unit[a] English	Unit[a] Metric	Value
Flow			
Design flow, avg annual	mgd	l/s	____
Design peak flow	mgd	l/s	____
Field area			
No. of basins or plots			
Total area	acres	hectares	____
Water balance			____
Design total annual precipitation[b]	in./yr	cm/yr	____
Return period	yr	yr	____
Design evapotranspiration	in./yr	cm/yr	____
Design percolation rate	ft/yr	m/yr	____
Effluent application rate[c]	ft/yr	m/yr	____
Organic (BOD) loading rate[c]	lb/acre/yr	kg/ha/yr	____
Nitrogen (as N) loading rate[c]	lb/acre/yr	kg/ha/yr	____
Phosphorus loading rate[c]	lb/acre/yr	kg/ha/yr	____
Other constituent loading rate[c]	lb/acre/yr	kg/ha/yr	____
Application rates			
Length of operating season	wk/yr	wk/yr	____
Application period[d]	day	day	____
Rate[d]	in./day	cm/day	____
Drying or resting period	day	day	____
Storage capacity	mg	cu m	____
Rate of recovery of renovated water	mgd	l/s	____

a. Typical units are given with a choice between English and Metric systems.

b. When design values of different return periods are used for determining liquid loading rates and storage capacities, both values should be shown.

c. Indicate critical loading rate by means of asterisk.

d. Include ranges of periods and rates if significant seasonal variations exist.

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Appendix E

PROPOSED CALIFORNIA REGULATIONS

The following is a set of regulations that has been proposed to replace existing California regulations. It is offered only as an example.

STATEWIDE RECLAMATION CRITERIA FOR USE OF RECLAIMED WATER FOR IRRIGATION AND RECREATIONAL IMPOUNDMENTS

California Administrative Code, Title 17, Chapter 5, Subchapter 1, Group 12

Article 1. Definitions

8025. Definitions. (a) Reclaimed Water. Reclaimed water means water which, as a result of treatment of waste, is suitable for a direct beneficial use or a controlled use that would not otherwise occur.

(b) Reclamation Plant. Reclamation plant means an arrangement of devices, structures, equipment, processes and controls which produce a reclaimed water suitable for the intended reuse.

(c) Regulatory Agency. Regulatory agency means the California Regional Water Quality Control Board in whose jurisdication the reclamation plant is located.

(d) Direct Beneficial Use. Direct beneficial use means the use of reclaimed water which has been transported from the point of production to the point of use without an intervening discharge to waters of the State.

(e) Food Crops. Food crops mean any crops intended for human consumption.

(f) Spray Irrigation. Spray irrigation means application of reclaimed water to crops by spraying it from orifices in piping.

(g) Surface Irrigation. Surface irrigation means application of reclaimed water by means other than spraying such that contact between the edible portion of any food crop and reclaimed water is prevented.

(h) Restricted Recreational Impoundment. A restricted recreational impoundment is a body of reclaimed water in which recreation is limited to fishing, boating, and other non-body-contact water recreation activities.

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(i) Non-Restricted Recreational Impoundment. A non-restricted recreational impoundment is an impoundment of reclaimed water in which no limitations are imposed on body-contact water sport activities.

(j) Landscape Impoundment. A landscape impoundment is a body of reclaimed water which is used for aesthetic enjoyment or which otherwise serves a function intended to exclude public contact.

(k) Approved Laboratory Methods. Approved laboratory methods are those specified in the latest edition of "Standard Methods for the Examination of Water and Wastewater," prepared and published jointly by the American Public Health Association, the American Water Works Association, and the Water Pollution Control Federation, and which are conducted in laboratories approved by the State Department of Health.

(l) Unit Process. Unit process means an individual stage in the wastewater treatment sequence which performs a major single operation.

(m) Primary Effluent. Primary effluent is the effluent from a sewage treatment process which provides partial removal of sewage solids by physical methods so that it contains not more than 0.5 milliliter per liter per hour of settleable solids as determined by an approved laboratory method.

(n) Oxidized Wastewater. Oxidized wastewater means wastewater in which the organic matter has been stabilized, is nonputrescible, and contains dissolved oxygen.

(o) Biological Treatment. Biological treatment means methods of wastewater treatment in which bacterial or biochemical action is intensified as a means of producing an oxidized wastewater as defined in (n).

(p) Secondary Sedimentation. Secondary sedimentation means the removal by gravity of settleable solids remaining in the effluent after the biological treatment process.

(q) Coagulated Wastewater. Coagulated wastewater means oxidized wastewater in which colloidal and finely divided suspended matter has been destabilized and agglomerated by the addition of suitable floc-forming chemicals or by an equally effective method.

(r) Filtered Wastewater. Filtered wastewater means an oxidized coagulated wastewater which has been passed through natural undisturbed soils or filter media, such as sand or diatomaceous earth, so that the turbidity as determined by an approved laboratory method does not exceed an average operating turbidity of 2 turbidity units and does not exceed 5 turbidity units more than 5 percent of the time during any 24-hour period.

(s) Disinfected Wastewater. Disinfected wastewater means wastewater in which the pathogenic organisms have been destroyed by chemical, physical, or biological means.

(t) Multiple Units. Multiple units mean two or more units of a treatment process which operate in parallel and serve the same function.

(u) Standby Unit Process. A standby unit process is an alternate unit process which is maintained in operable condition and which is capable of providing comparable treatment for the entire design flow in the event that the unit for which it is a substitute becomes inoperative.

(v) Power Source. Power source means a source of supplying energy to operate unit processes.

(w) Standby Power Source. Standby power source means an alternate energy source such as an engine driven generator, maintained in immediately operable condition and of sufficient capacity to provide necessary service during failure of the normal power supply.

(x) Alarm. Alarm means an instrument or device which continuously monitors a specific function of a treatment process and automatically gives warning of an unsafe or undesirable condition by means of visual and audible signals.

(y) Person. Person also includes any city, county, district, the State or any department or agency thereof.

Article 2. Irrigation of Food Crops

8030. Spray Irrigation. Reclaimed water used for the spray irrigation of food crops shall be at all times an adequately disinfected, oxidized, coagulated, filtered wastewater. The wastewater shall be considered adequately disinfected if at some location in the treatment process the median number of coliform organisms does not exceed 2.2 per 100 milliliters and the number of coliform organisms in any sample does not exceed 23 per 100 milliliters. The median value shall be determined from the bacteriological results of the last 7 days for which analyses have been completed.

8031. Surface Irrigation. (a) Reclaimed water used for surface irrigation of food crops shall be at all times an adequately disinfected, oxidized wastewater. The wastewater shall be considered adequately disinfected if at some location in the treatment process the median number of coliform organisms does not exceed 2.2 per 100 milliliters, as determined from the bacteriological results of the last 7 days for which analyses have been completed.

(b) Orchards and vineyards may be surface irrigated with reclaimed water that has the quality at least equivalent to that of primary effluent provided that no fruit is harvested that has come in contact with the irrigating water or the ground.

8032. Exceptions. Exceptions to the quality requirements for reclaimed water used for irrigation of food crops may be considered by the State Department of Health on an individual case basis where the reclaimed water is to be used to irrigate a food crop which must undergo extensive commercial, physical, or chemical processing sufficient to destroy pathogenic agents before it is suitable for human consumption.

Article 3. Irrigation of Fodder, Fiber, and Seed Crops

8035. Fodder, Fiber, and Seed Crops. Reclaimed water used for the surface or spray irrigation of fodder, fiber, and seed crops shall have a level of quality no less than that of primary effluent.

8036. Pasture for Milking Animals. Reclaimed water used for the irrigation of pasture to which milking cows or goats have access shall be at all times an adequately disinfected, oxidized wastewater. The wastewater shall be considered adequately disinfected if at some location in the treatment process the median number of coliform organisms does not exceed 23 per 100 milliliters, as determined from the bacteriological results of the last 7 days for which analyses have been completed.

Article 4. Landscape Irrigation

8039. Landscape Irrigation. Reclaimed water used for the irrigation of golf courses, cemeteries, lawns, parks, playgrounds, freeway landscapes, and landscapes in other areas where the public has access shall be at all times an adequately disinfected, oxidized wastewater. The wastewater shall be considered adequately disinfected if at some location in the treatment process the median number of coliform organisms does not exceed 23 per 100 milliliters, as determined from the bacteriological results of the last 7 days for which analyses have been completed.

Article 5. Recreational Impoundments

8042. Non-Restricted Recreational Impoundment. Reclaimed water used as a source of supply in a non-restricted recreational impoundment shall be at all times an adequately disinfected, oxidized, coagulated, filtered wastewater. The wastewater shall be considered adequately disinfected if at some location in the treatment process the median number of coliform organisms does not exceed

2.2 per 100 milliliters and the number of coliform organisms in any sample does not exceed 23 per 100 milliliters. The median value shall be determined from the bacteriological results of the last 7 days for which analyses have been completed.

8043. Restricted Recreational Impoundment. Reclaimed water used as a source of supply in a restricted recreational impoundment shall be at all times an adequately disinfected, oxidized wastewater. The wastewater shall be considered adequately disinfected if at some location in the treatment process the median number of coliform organisms does not exceed 2.2 per 100 milliliters, as determined from the bacteriological results of the last 7 days for which analyses have been completed.

8044. Landscape Impoundment. Reclaimed water used as a source of supply in a landscape impoundment shall be at all times an adequately disinfected, oxidized wastewater. The wastewater shall be considered adequately disinfected if at some location in the treatment process the median number of coliform organisms does not exceed 23 per 100 milliliters, as determined from the bacteriological results of the last 7 days for which analyses have been completed.

Article 6. Sampling and Analysis

8047. Sampling and Analysis. (a) Samples for settleable solids and coliform bacteria, where required, shall be collected at least daily and at a time when wastewater characteristics (highest organic and hydraulic mass loading) are most demanding on the treatment facilities and disinfection procedures. Turbidity analysis, where required, shall be performed by a continuous recording turbidimeter.

(b) For uses requiring a level of quality no less than that of primary effluent, samples shall be analyzed by an approved laboratory method for settleable solids.

(c) For uses requiring an adequately disinfected, oxidized wastewater, samples shall be analyzed by an approved laboratory method for coliform bacteria content.

(d) For uses requiring an adequately disinfected, oxidized, coagulated, filtered wastewater, samples shall be analyzed by approved laboratory methods for turbidity and coliform bacteria content.

Article 7. Engineering Report and Operational Requirements

8050. Engineering Report. (a) No person shall produce or supply reclaimed water as defined in Section 13050 (n) of the Water Code for direct reuse from a proposed water reclamation plant unless he files an engineering report in accordance with Water Code Section 13522.5.

(b) The report shall be prepared by a civil engineer registered in California and experienced in the field of wastewater treatment, and shall contain a description of the design of the proposed reclamation system. The report shall clearly indicate the means for compliance with these regulations and any other features specified by the regulatory agency.

8051. Personnel. (a) Each reclamation plant shall be provided with sufficient number of qualified personnel to operate the facility effectively so as to achieve the required level of treatment at all times.

(b) Qualified personnel shall be those meeting requirements established pursuant to Chapter 9 (commencing with Section 13625) of the Water Code.

8052. Maintenance. An equipment maintenance program shall be provided at each reclamation plant to ensure that all equipment is kept in a highly reliable operating condition.

8053. Operational Records and Reports. (a) Operating records shall be maintained at the reclamation plant or a centralized depository within the operating agency. These shall include all analyses specified in the reclamation criteria and records of operational problems, plant and equipment breakdowns, diversions to emergency storage or disposal, and all corrective or preventive action taken.

(b) Process or equipment failures triggering an alarm shall be recorded and maintained as a separate record file. The recorded information shall include the time and cause of failure and corrective action taken.

(c) A monthly summary of operating records as specified under (a) and (b) in this section shall be filed monthly with the regulatory agency.

(d) Any discharge of untreated or partially treated wastewater to the use area, and the cessation of same, shall be reported by telephone to the regulatory agency, the State Department of Health, and the local health officer.

8054. Bypass. There shall be no bypassing of untreated or partially treated wastewater from the reclamation plant or any intermediate unit processes to the point of use.

Article 8. General Requirements of Design

8057. Flexibility of Design. The design of process piping, equipment arrangement, and unit structures in the reclamation plant must allow for efficiency and convenience in operation and maintenance and provide flexibility of operation to permit the highest possible degree of treatment to be obtained under varying circumstances.

8058. Alarms. (a) Alarm devices required for various unit processes as specified in other sections of these regulations shall be installed to provide warning of at least the following process failures:

(1) Loss of power from normal power supply.

(2) Loss of air supply or any other event which may result in failure of a biological treatment process.

(3) Loss of chlorine supply, low chlorine residual, failure of injector water supply, and any other event which may result in failure of a disinfection process.

(4) Loss of coagulant feed and any other event which may result in failure of a coagulation process.

(5) Excessive headloss, excessive turbidity, and any other event or parameter which may result in failure of a filtration process.

(6) Any other specific process failure for which warning is required by the regulatory agency.

(b) All required alarm devices shall be independent of the main power supply of the reclamation plant.

(c) The person to be warned shall be the plant operator, superintendent, or any other responsible person designated by the management of the reclamation plant and capable of taking prompt corrective action.

(d) Individual alarm devices may be connected to a master alarm to sound at a location where it can be conveniently observed by the attendant. In case the reclamation plant is not attended full time, alarm(s) shall be connected to sound at a police station, fire station or other full time service unit with which arrangements have been made to alert the person in charge at times that the reclamation plant is unattended.

8059. Power Supply. Provisions shall be made for substitute power in the event of failure of the normal power supply including one of the following reliability features:

(a) Alarm and standby power source, including automatic switchover to self-starting standby power source if the plant will not be attended continuously.

(b) Alarm and automatically actuated short-term retention provisions for untreated wastewater as specified in Section 8064.

(c) Automatically actuated long-term emergency storage or disposal provisions for untreated wastewater as specified in Section 8064.

Article 9. Alternative Reliability Requirements for Uses Permitting Primary Effluent

8061. Primary Treatment. Reclamation plants producing reclaimed water exclusively for uses for which primary effluent is permitted shall be provided with one of the following reliability features:

(a) Multiple or standby primary treatment units, as specified in Section 8064, capable of providing essentially unimpaired treatment when one unit is taken out of service.

(b) Long-term emergency storage or disposal provisions as specified in Section 8064.

Article 10. Alternative Reliability Requirements for Uses Requiring Oxidized, Disinfected Wastewater or Oxidized, Coagulated, Filtered, Disinfected Wastewater

8064. Definitions Relating to Reliability Requirements. (a) Multiple biological treatment units mean multiple tanks and multiple units of all critical process equipment such as blowers, aerators, and recirculation pumps.

(b) Standby replacement equipment means reserve parts and equipment such as pumps, valves, controls, and instruments to replace broken-down or worn-out units which can be assembled and placed in operation within a 24-hour period.

(c) Uninterrupted coagulant feed means all of the following mandatory features: standby feeders, adequate chemical storage and conveyance facilities, adequate reserve chemical supply, automatic dosage control, and alarms to warn of equipment breakdown.

(d) Uninterrupted chlorine feed means the following mandatory features: standby chlorine supply, manifold systems to connect chlorine cylinder scales; alarms to warn of malfunctions, automatic devices for switching over to full

chlorine cylinders, and in addition may require automatic residual control of chlorine dosage, automatic measuring and recording of chlorine residual, and hydraulic performance studies.

(e) A standby chlorinator means a duplicate chlorinator for reclamation plants having one chlorinator; duplicate of the largest unit for plants having multiple chlorinator units. All standby equipment shall be maintained in immediate operable condition.

(f) Multiple point chlorination means that chlorine will be applied simultaneously at the reclamation plant and at subsequent chlorination stations located at the use area and/or some intermediate point. It does not include chlorine application for odor control purposes.

(g) Where short-term retention is provided as a reliability feature, it shall consist of facilities reserved for the purpose of storing or disposing of untreated or partially treated wastewater for at least a 24-hour period. The facilities shall include all the necessary diversion devices, provisions for odor control, conduits and pumping and pump back equipment, and shall be either independent of normal power or provided with a standby power source.

(h) Where long-term emergency storage or disposal provisions are used as a reliability feature, these shall consist of ponds, reservoirs, percolation areas, downstream sewers leading to other treatment or disposal facilities or any other facilities reserved for the purpose of emergency storage or disposal of untreated or partially treated wastewater. These facilities shall be of sufficient capacity to provide disposal or storage of wastewater for at least 20 days, and shall include all the necessary diversion works, provisions for odor and nuisance control, conduits and pumping and pump back equipment. The emergency equipment shall be either independent of normal power or provided with a standby power source.

(1) Diversion to a less demanding reuse is an acceptable alternative to emergency disposal of partially treated wastewater provided that the quality of the partially treated wastewater is suitable for the less demanding reuse.

(2) Subject to prior approval by the regulatory agency, diversion to a discharge point which requires lesser quality of wastewater is an acceptable alternative to emergency disposal of partially treated wastewater.

(3) Automatically actuated long-term emergency storage or disposal provisions shall include, in addition to provisions of part (h) of this section, or parts (1) or (2) of this subsection, all the necessary sensors, instruments, valves and other devices to enable fully automatic diversion of untreated or partially treated wastewater to approved emergency storage or disposal in the event of failure of a treatment process, and a manual reset to prevent automatic restart until the failure is corrected.

(i) Multiple or standby primary treatment units mean multiple or standby tanks and multiple or standby units of all critical process equipment such as sludge transfer facilities.

8065. Primary Effluent. All primary treatment unit processes shall be provided with one of the following reliability features:

(a) Multiple units to enable partial treatment of wastewater with one unit not in operation.

(b) Standby primary treatment unit process.

(c) Long-term emergency storage or disposal provisions.

8066. Biological Treatment. All biological treatment unit processes shall be provided with one of the following reliability features:

(a) Alarm and multiple biological treatment units capable of producing oxidized wastewater with one unit not in operation.

(b) Alarm, short-term retention provisions, and standby replacement equipment.

(c) Alarm and long-term emergency storage or disposal provisions.

(d) Automatically actuated long-term emergency storage or disposal provisions.

8067. Secondary Sedimentation. All secondary sedimentation unit processes shall be provided with one of the following reliability features:

(a) Multiple sedimentation units capable of providing essentially unimpaired treatment when one unit is taken out of service.

(b) Standby sedimentation unit process.

(c) Long-term emergency storage or disposal provisions.

8068. Coagulation. All coagulation unit processes shall be provided with special provisions for uninterrupted coagulant feed and one of the following reliability features:

(a) Alarm and multiple coagulation units capable of treating the entire flow with one unit not in operation.

(b) Alarm, short-term retention provisions and standby replacement equipment.

(c) Alarm and long-term emergency storage or disposal provisions.

(d) Automatically actuated long-term emergency storage or disposal provisions.

(e) Alarm and standby coagulation unit process.

8069. Filtration. All filtration unit processes shall be provided with one of the following reliability features:

(a) Alarm and multiple filter units capable of treating the entire flow with one unit not in operation.

(b) Alarm, short-term retention provisions and standby replacement equipment.

(c) Alarm and long-term emergency storage or disposal provisions.

(d) Automatically actuated long-term emergency storage or disposal provisions.

(e) Alarm and standby filtration unit process.

8070. Disinfection. All disinfection unit processes where chlorine is used as the disinfectant shall be provided with features for uninterrupted chlorine feed and one of the following reliability features:

(a) Alarm and standby chlorinator.

(b) Alarm, short-term retention provisions and standby replacement equipment.

(c) Alarm and long-term emergency storage or disposal provisions.

(d) Automatically actuated long-term emergency storage or disposal provisions.

(e) Alarm and multiple point chlorination, each with independent power source, separate chlorinator, and separate chlorine supply.

8071. Other Alternatives to Reliability Requirements. Other alternatives to reliability requirements set forth in Articles 8 to 10 may be accepted if the applicant demonstrates to the satisfaction of the regulatory agency that the proposed alternative will assure an equal degree of reliability.

Article 11. Other Methods of Treatment

8072. Other Methods of Treatment. Methods of treatment other than those included in this chapter and their reliability features will be evaluated by the regulatory agency on a case-by-case basis.

Appendix F
SOURCES OF DATA

To assist the evaluator and engineer in data-gathering and evaluation, some major sources of data are listed for climate, topography, soil characteristics, geologic formations, groundwater, and receiving water. It must be stressed that these do not represent all the possible sources of data.

CLIMATE

Information on precipitation, temperature, humidity, and winds may be obtained from the following sources:

- National Weather Service, local offices
- Climatological Data, published by the National Weather Service, Department of Commerce
- Airports
- Universities
- Military installations

The National Oceanographic and Atmospheric Administration is preparing a report for EPA on weather parameters that influence winter operations of land-application systems. This report, when available in early 1975, should be an excellent source of climatological data.

Additionally, data on evapotranspiration can usually be obtained from the following sources:

- Agricultural Extension Service
- Agricultural Experiment Stations
- Agencies managing large water reservoirs

TOPOGRAPHY

Topographic maps and aerial photographs can provide much of the information needed to analyze the topography. Topographic maps are most widely available from the U.S. Geological Survey in 7.5- and 15-minute quadrangles. Aerial photographs, when they exist, may be located by contacting the following sources:

- U.S. Department of Agriculture, Commodity Stabilization program
- Local or county planning departments
- U.S. Corps of Engineers offices
- Private photogrammetry and mapping companies

SOIL CHARACTERISTICS

Consultation with the Soil Conservation Service (U.S. Department of Agriculture) to obtain information on soil characteristics is highly recommended. SCS offices exist in most counties; however, each county office does not necessarily have a soil scientist. The state soil scientists should therefore be contacted. Additionally, SCS has published many soil maps with descriptions of soil characteristics to a depth of 5 feet. These descriptions include groundslopes, existing land use, erosion potential, and surface drainage, which are also important considerations. Agricultural Extension Service representatives, consulting soil scientists, or agronomists may have additional information on soil characteristics.

GEOLOGIC FORMATIONS

The U.S. Geological Service is the primary source of data on geological formations. Geologic maps and investigative reports are available for many areas. State mine and geology agencies may also have information on geologic formations in terms of maps or reports.

GROUNDWATER

Data on groundwater may come from a number of different sources, such as state water resource agencies, the U.S. Geological Service, local or county water conservation districts, and users of groundwater (municipalities, water companies, and individuals).

RECEIVING WATER

The U.S. Geological Service has monitoring gages on most large streams and many small ones. In addition to this flow data, data on temperature and mineral quality are collected. The EPA has a computer storage system (called STORET) that contains a great deal of water-quality data from one-time studies and continuous monitoring by federal, state, and local agencies. STORET output can be obtained at Regional EPA offices.

Appendix G

COST-EFFECTIVENESS ANALYSIS GUIDELINES
(40 CFR 35 - Appendix A)

Title 40—Protection of the Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

SUBCHAPTER D—GRANTS

PART 35—STATE AND LOCAL ASSISTANCE

Appendix A—Cost-Effectiveness Analysis

On July 3, 1973, notice was published in the FEDERAL REGISTER that the Environmental Protection Agency was proposing guidelines on cost-effectiveness analysis pursuant to section 212(2)(c) of the Federal Water Pollution Act Amendments of 1972 (the Act) to be published as appendix A to 40 CFR part 35.

Written comments on the proposed rulemaking were invited and received from interested parties. The Environmental Protection Agency has carefully considered all comments received. No changes were made in the guidelines as earlier proposed. All written comments are on file with the agency.

Effective date.—These regulations shall become effective October 10, 1973.

Dated September 4, 1973.

JOHN QUARLES,
Acting Administrator.

APPENDIX A

COST EFFECTIVENESS ANALYSIS GUIDELINES

a. *Purpose.*—These guidelines provide a basic methodology for determining the most cost-effective waste treatment management system or the most cost-effective component part of any waste treatment management system.

b. *Authority.*—The guidelines contained herein are provided pursuant to section 212(2)(C) of the Federal Water Pollution Control Act Amendments of 1972 (the Act).

c. *Applicability.*—These guidelines apply to the development of plans for and the selection of component parts of a waste treatment management system for which a Federal grant is awarded under 40 CFR, Part 35.

d. *Definitions.*—Definitions of terms used in these guidelines are as follows:

(1) *Waste treatment management system.*—A system used to restore the integrity of the Nation's waters. Waste treatment management system is used synonymously with "treatment works" as defined in 40 CFR, Part 35.905-15.

(2) *Cost-effectiveness analysis.*—An analysis performed to determine which waste treatment management system or component part thereof will result in the minimum total resources costs over time to meet the Federal, State or local requirements.

(3) *Planning period.*—The period over which a waste treatment management system is evaluated for cost-effectiveness. The planning period commences with the initial operation of the system.

(4) *Service life.*—The period of time during which a component of a waste treatment management system will be capable of performing a function.

(5) *Useful life.*—The period of time during which a component of a waste treatment management system will be required to perform a function which is necessary to the system's operation.

e. *Identification, selection and screening of alternatives.*—(1) *Identification of alternatives.*—All feasible alternative waste management systems shall be initially identified. These alternatives should include systems discharging to receiving waters, systems using land or subsurface disposal techniques, and systems employing the reuse of wastewater. In identifying alternatives, the possibility of staged development of the system shall be considered.

(2) *Screening of alternatives.*—The identified alternatives shall be systematically screened to define those capable of meeting the applicable Federal, State, and local criteria.

(3) *Selection of alternatives.*—The screened alternatives shall be initially analyzed to determine which systems have cost-effective potential and which should be fully evaluated according to the cost-effectiveness analysis procedures established in these guidelines.

(4) *Extent of effort.*—The extent of effort and the level of sophistication used in the cost-effectiveness analysis should reflect the size and importance of the project.

f. *Cost-Effective analysis procedures.*—(1) *Method of Analysis.*—The resources costs shall be evaluated through the use of opportunity costs. For those resources that can be expressed in monetary terms, the interest (discount) rate established in section (f)(3) will be used. Monetary costs shall be calculated in terms of present worth values or equivalent annual values over the planning period as defined in section (f)(2). Non-monetary factors (e.g., social and environmental) shall be accounted for descriptively in the analysis in order to determine their significance and impact.

The most cost-effective alternative shall be the waste treatment management system determined from the analysis to have the lowest present worth and/or equivalent annual value without overriding adverse non-monetary costs and to realize at least identical minimum benefits in terms of applicable Federal, State, and local standards for effluent quality, water quality, water reuse and/or land and subsurface disposal.

(2) *Planning period.*—The planning period for the cost-effectiveness analysis shall be 20 years.

(3) *Elements of cost.*—The costs to be considered shall include the total values of the resources attributable to the waste treatment management system or to one of its component parts. To determine these values, all monies necessary for capital construction costs and operation and maintenance costs shall be identified.

Capital construction costs used in a cost-effectiveness analysis shall include all contractors' costs of construction including overhead and profit; costs of land, relocation, and right-of-way and easement acquisition; design engineering, field exploration, and engineering services during construction; administrative and legal services including costs of bond sales; startup costs such as operator training; and interest during construction. Contingency allowances consistent with the level of complexity and detail of the cost estimates shall be included.

Annual costs for operation and maintenance (including routine replacement of equipment and equipment parts) shall be included in the cost-effectiveness analysis. These costs shall be adequate to ensure effective and dependable operation during the planning period for the system. Annual costs shall be divided between fixed annual costs and costs which would be dependent on the annual quantity of wastewater collected and treated.

(4) *Prices.*—The various components of cost shall be calculated on the basis of market prices prevailing at the time of the cost-effectiveness analysis. Inflation of wages and prices shall not be considered in the analysis. The implied assumption is that all prices involved will tend to change over time by approximately the same percentage. Thus, the results of the cost effectiveness analysis will not be affected by changes in the general level of prices.

Exceptions to the foregoing can be made if their is justification for expecting significant changes in the relative prices of certain items during the planning period. If such cases are identified, the expected change in these prices should be made to reflect their future relative deviation from the general price level.

(5) *Interest (discount) rate.*—A rate of 7 percent per year will be used for the cost-effectiveness analysis until the promulgation of the Water Resources Council's "Proposed Principles and Standards for Planning Water and Related Land Resources." After promulgation of the above regulation, the rate established for water resource projects shall be used for the cost-effectiveness analysis.

(6) *Interest during construction.*—In cases where capital expenditures can be expected to be fairly uniform during the construction period, interest during construction may be calculated as $I \times \frac{1}{2} P \times C$ where:

I = the interest (discount) rate in Section f(5).
P = the construction period in years.
C = the total capital expenditures.

In cases when expenditures will not be uniform, or when the construction period will be greater than three years, interest during construction shall be calculated on a year-by-year basis.

(7) *Service life.*—The service life of treatment works for a cost-effectiveness analysis shall be as follows:

Land	Permanent
Structures (includes plant buildings, concrete process tankage, basins, etc.; sewage collection and conveyance pipelines; lift station structures; tunnels; outfalls)	30-50 years
Process equipment (includes major process equipment such as clarifier mechanism, vacuum filters, etc.; steel process tankage and chemical storage facilities; electrical generating facilities on standby service only).	15-20 years
Auxiliary equipment (includes instruments and control facilities; sewage pumps and electric motors; mechanical equipment such as compressors, aeration systems, centrifuges, chlorinators, etc.; electrical generating facilities on regular service).	10-15 years

Other service life periods will be acceptable when sufficient justification can be provided. Where a system or a component is for interim service and the anticipated useful life is less than the service life, the useful life shall be substituted for the service life of the facility in the analysis.

(8) *Salvage value.*—Land for treatment works, including land used as part of the treatment process or for ultimate disposal of residues, shall be assumed to have a salvage value at the end of the planning period equal to its prevailing market value at the time of the analysis. Right-of-way easements shall be considered to have a salvage value not greater than the prevailing market value at the time of the analysis.

Structures will be assumed to have a salvage value if there is a use for such structures at the end of the planning period. In this case, salvage value shall be estimated using straightline depreciation during the service life of the treatment works.

For phased additions of process equipment and auxiliary equipment, salvage value at the end of the planning period may be estimated under the same conditions and on the same basis as described above for structures.

When the anticipated useful life of a facility is less than 20 years (for analysis of interim facilities) salvage value can be claimed for equipment where it can be clearly demonstrated that a specific market or reuse opportunity will exist.

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TECHNICAL BULLETIN—

PROTECTION OF SHELLFISH WATERS

JULY 1974

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Water Program Operations
Washington, D.C. 20460

U.S. ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF WATER PROGRAM OPERATIONS

TECHNICAL BULLETIN

PROTECTION OF SHELLFISH WATERS

The Federal Water Pollution Control Act Amendments of 1972 establish an extensive program to upgrade the quality of our Nation's waters. The program of Federal grants for construction of municipal wastewater treatment plants will have significant benefits in reducing pollution and improving water quality. The effluents from many municipal plants could impact on shellfish waters, with serious potential for public health and local shell-fishing industries. As these plants are upgraded through the EPA construction grants program, it is essential that project designs include provisions for protection of shellfish waters.

This Technical Bulletin, which supplements the "Federal Guidelines: Design, Operation, and Maintenance of Wastewater Treatment Facilities", is a compilation of information to provide a high degree of reliability in the protection of shellfish waters. Much of the Bulletin is based on existing information from publications of the Environmental Protection Agency and the Food and Drug Administration.

EPA Regional Administrators will work closely with the Food and Drug Administration to reasonably determine if completed project designs provide a level of protection which meets the objectives of this bulletin. In some cases the need for construction of additional reliability features may be identified and appropriately accomplished in a project subsequent to the one being reviewed. By July 1975 it is anticipated that designs will be in accordance with the bulletin and routine project review by the Food and Drug Administration would not be necessary.

The Bulletin will be revised from time to time as additional information becomes available. All users are encouraged to submit suggested revisions and information to the Director, Municipal Construction Division (WH-447), Office of Water Program Operations, Environmental Protection Agency, Washington, D.C. 20460.

James L. Agee

James L. Agee
Assistant Administrator
for Water and Hazardous Materials

U.S. ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF WATER PROGRAM OPERATIONS

TECHNICAL BULLETIN

PROTECTION OF SHELLFISH WATERS

Purpose:

The purpose of this bulletin is to ensure that maximum protection is provided for shellfish waters receiving effluent discharged from municipal wastewater treatment works proposed for an EPA construction grant.

Applicability:

This bulletin applies to projects which could affect shellfish waters.

Relationship to National Shellfish Sanitation Program:

The National Shellfish Sanitation Program (NSSP) is a voluntary cooperative program conducted by the Food and Drug Administration (FDA) of the U.S. Department of Health, Education, and Welfare and 23 coastal States and the shellfish industry. NSSP requirements are contained in the National Shellfish Sanitation Program Manual of Operations, Part I, Sanitation of Shellfish Growing Areas (1965). This bulletin provides guidelines for design of publicly owned treatment works to meet the objectives of the Manual of Operations.

Definitions:

The following definitions apply to the terms used in this bulletin:

Shellfish: Molluscan shellfish species of oysters, clams, and mussels. As used in this bulletin, the term does not include other species, such as crabs, lobsters, shrimp, or scallops.

Shellfish Waters: Any waters which are classified by the State as either shellfish growing waters or potential shellfish growing waters.

Shellfish Growing Waters: Waters classified by the State as acceptable for commercial or recreational harvesting of shellfish. In the manual of operations these are classified as either Approved or Conditionally Approved growing areas.

Potential Shellfish Growing Waters: Waters classified by the State as not presently acceptable for commercial or recreational harvesting of shellfish, but which the State plans to make acceptable in the future by improving certain conditions. In the NSSP Manual of Operations these would be presently classified as either Restricted or Prohibited growing areas. To be in this category, the waters must have been formally classified by the State as potentially meeting the approved shellfish growing water quality requirements for the production of shellfish.

Background:

These guidelines are necessary because of the public health hazards resulting from the harvesting of edible moluscan shellfish from waters subject to discharge of pollutants. Shellfish are known to concentrate pollutants from the aquatic environment. The quality of the shellfish is directly related to the quality of the overlying waters. In the past there have been numerous typhoid fever and infectious hepatitis outbreaks associated with the consumption of sewage contaminated shellfish. Since shellfish are frequently eaten uncooked or partially cooked, their habitat must be protected to preclude contamination and the resultant health hazard.

Action to be taken by the grant applicant:

1. Determine if the proposed project could affect shellfish waters. Some projects clearly could never affect shellfish waters, and this bulletin does not apply to such projects. Assistance in making this determination is available from the State water pollution control agency and the EPA Regional Administrator.

2. Assess the impact of the proposed project on the shellfish waters. This is accomplished during the facility planning phase (see Section 35.917, 40 CFR 35). Coordination with environmental protection authorities, shellfish regulatory agencies (Appendices 1 and 2), and local interests must be initiated early in the project planning. The assessment of total impact, and screening of alternatives for cost-effectiveness analysis (40 CFR 35, Appendix A) will include, but is not limited to, the determination of the following:

a. Location of the effluent discharge in relation to the shellfish waters.

b. Volumes of wastewater.

c. Effluent quality expected under normal and adverse conditions. Includes bacterial quality, substances

that could be toxic (such as heavy metals or pesticides), or other materials which could adversely affect public health.

d. Estimates of the effect on the shellfish waters of combined sewer overflows or other uncontrolled discharges from the treatment works. Provide information on rainfall frequency, duration, and intensity, or other conditions, which cause overflows, bypasses, or significant reductions in treatment efficiency, and the locations in the project system where these conditions will occur.

e. A summary of NPDES municipal permit information on wastewaters introduced into the municipal system by industrial users.

f. The reliability of the processes and equipment included in the project, including an estimate of the frequency of adverse conditons affecting the shellfish waters and measures included in the project to increase reliability of wastewater treatment works performance or provide containment of potentially adverse discharges.

g. An evaluation of dilution, dispersion, mixing, thermal effects, and seasonal variations affecting the shellfish waters as a result of the proposed project.

h. Relate the present shellfish water conditions to those conditions expected during and after construction of the project. Information on the existing shellfish water conditions is available from environmental protection authorities, shellfish regulatory agencies, and public health departments.

3. Estimate the size of a closed safety zone around the outfall site. The closed safety zone is a designated portion of the shellfish waters adjacent to a source of contamination (such as an outfall) in which harvesting of shellfish would be prohibited. The closed safety zone is required by the NSSP Manual of Operations between conditionally approved growing areas and the source of pollution, and is subject to review and approval by environmental protection authorities and shellfish regulatory agencies. There is a two-fold objective in designating the closed safety zone. Both objectives are related to the time required for pollutants to travel from the source of pollution, through the closed safety zone, to the shellfish growing areas. One objective is to ensure public health is protected by

preventing pathogen contamination of shellfish waters from normally operating treatment works. Mixing, dilution, and natural pathogen die off occur as the pathogens tranverse the closed safety zone and the pathogen concentrations are decreased accordingly. The objective is achieved by defining the closed safety zone so that the pathogen concentrations beyond the zone are at acceptable levels under normal operating conditions. The second objective is to provide the time necessary for notification to cease harvesting in the shellfish growing waters following a malfunction in the wastewater treatment works. Define a closed safety zone to provide the required safety factor for both objectives. The factors to be considered in determining the boundaries for a closed safety zone are:

a. For normally operating wastewater treatment works:

   (1) The maximum concentration of contaminants (usually coliform bacteria) expected in the effluent before an emergency response plan is activated.

   (2) Time and distance from the discharge point for the effluent containing the maximum expected concentration of contaminants to be reduced to permissable levels, considering dilution expected under adverse conditions in the receiving waters (e.g., high stream flows and spring tides which result in minimum time of flow to the boundary and reduced salinity).

b. For a malfunction in wastewater treatment works:

   (1) The total time it would take for the wastewater treatment works operator to detect a malfunction, notify the shellfish regulatory agency, and for the agency to stop shellfish harvesting. Due consideration should be given to adverse conditions such as time of occurrence (weekend, holiday, or at night), the areas to be covered, and the methods of communication. In some cases instrumentation and alarms beyond the level established in this Technical Bulletin can be provided to reduce the time required to notify the shellfish regulatory agency of a malfunction.

(2) The reliability of wastewater treatment works. See paragraph 4b of this bulletin.

(3) The travel time for flow from the points of discharge to the Conditionally Appoved growing areas. Adverse conditions which will reduce travel time, such as river stage or tides, will be considered. Allowance must also be made for the expected degree of mixing.

(4) The safety factor to be provided. Normally the travel time through the closed safety zone should be twice the time required for the notification process to become effective. Where this is not feasible, provide increased reliability or storage.

c. Each of the above factors has some variability. Analyze these factors and determine the optimum combination to ensure protection of public health, preserve valuable shellfish growing waters, and provide for cost-effective wastewater treatment works.

4. Base the wastewater treatment works design on the following guidelines:

a. Federal Guidelines: Design, Operation, and Maintenance of Wastewater Treatment Plants.

b. Technical Bulletin "Design Criteria for Mechanical, Electric, and Fluid System and Component Reliability," EPA-430-99-74-001. Shellfish waters will be Reliability Class I. When conditions warrant (e.g., proximity of shellfish beds, unusual chlorine demand variations, excessive wet weather flows) a degree of reliability higher than described in EPA-430-99-74-001 may be needed. This could include increased disinfection contact time, larger holding basins, or equipment redundancy.

c. Discharges in close proximity to shellfish harvesting areas should be avoided. Where such dischargers are unavoidable, the applicant should contact environmental protection authorities and shellfish regulatory agencies for guidance.

d. Where the effluent discharge will be to waters designated by the State as potential shellfish growing waters, the

criteria will either be incorporated in the design or provision will be made to incorporate them by future modifications to the wastewater treatment works. The course of action to be followed will be based on the timing of planned actions to upgrade the shellfish waters.

e. Disinfection System. Effluent disinfection performance requirements are contained in the municipal NPDES permit. The permit is based on the EPA secondary treatment information (40 CFR 133), but more stringent requirements may be imposed for other conditions, such as water quality related to shellfish waters. Shellfish safety is closely related to reduction of pathogenic micro-organisms. Thus, the disinfection system must be designed to achieve high effectiveness and reliability. The following requirements apply where chlorine is used as the disinfectant. Other disinfectants are acceptable provided a level of performance and reliability comparable to chlorination is attained.

(1) The sanitation requirements for approved shellfish growing areas are given in the following quotation from the NSPP Manual of Operation:

"Growing areas may be designated as approved when: (a) the sanitary survey indicates that pathogenic micro-organisms, radionuclides, and/or harmful industrial wastes do not reach the area in dangerous concentration, and (b) this is verified by laboratory findings whenever the sanitary survey indicates the need. Shellfish may be taken from such areas for direct marketing.

"Satisfactory compliance. -- This item will be satisfied when the three following criteria are met:

(a) The area is not so contaminated with fecal material that consumption of the shellfish might be hazardous, and

(b) the area is not so contaminated with radionuclides or industrial wastes that consumption of the shellfish might be hazardous (see section c item 7 in the Manual of Operation, regarding toxins in shellfish growing areas), and

(c) the coliform median MPN of the water does not exceed 70 per 100 mil., and not more than 10 percent of the samples ordinarily exceed an

MPN of 230 per 100 ml. for a 5-tube decimal dilution test (or 330 per 100 ml., where the 3-tube decimal dilution test is used) in those portions of the area most probably exposed to fecal contamination during the most unfavorable hydrographic and pollution conditions. (Note: This concentration might be exceeded if less than 8 million cubic feet of a coliform-free dilution water are available for each population equivalent (coliform) of sewage reaching the area). The foregoing limits need not be applied if it can be shown by detailed study that the coliforms are not of direct fecal origin and do not indicate a public health hazard. This MPN value is based on a typical ratio of coliforms to pathogens and would not be applicable to any situation in which an abnormally large number of pathogens might be present. Consideration must also be given to the possible presence of industrial or agricultural wastes in which there is an atypical coliform to pathogen ratio."

(2) Maintain an adequate chlorine residual in the chlorine contact chamber to ensure that the bacteriological requirements are not exceeded in the effluent or shellfish waters. Because of insufficient data available to relate effluent bacteriological quality and chlorine residual and variatons in types and strengths of wastewater, no specific chlorine residual is recommended.

(3) Provide sufficient chlorinator capacity to continuously maintain adequate disinfection with the largest unit out of service. Disinfection must be continuous during container and/or chlorinator changeover.

(4) Chlorine Contact Tank

(a) Premixing - Rapidly and thoroughly mix the chlorine with the wastewater before entering the chlorine contact chamber.

(b) Contact chamber - Design the chlorine contact chamber for a contact time of at least 30 minutes at the peak hourly flow rate. Additional contact chamber capacity or flow equalization may be necessary where there are unusually high peak flow rates.

Design the chlorine contact chambers in accordance with Paragraph 212.1.9 of Technical Bulletin "Design Criteria for Mechanical, Electric, and Fluid System and Component Reliability," EPA 430-99-74-001. Chambers should be designed to produce, as nearly as possible, a plug flow condition (plug flow occurs when each increment of flow is in the chamber for a time equal to the theoretical detention time). The design will include adequate measures to minimize short circuiting, stratification, and stagnation zones. Velocity variations within the chamber will be minimized.

(c) Outfalls - conduits conveying effluent will not normally be considered as part of the required chlorine contact chamber. One exception could be where the chlorine residual is continuously monitored at the end of the portion of conduit used for contact chamber.

(5) The chlorine residual in the effluent after detention in the chlorine contact chamber (or other conduit) will be continously monitored and recorded.

(6) Provide an alarm for low chlorine residual in the effluent. Additionally, depending on the size of the plant, proximity to the shellfish beds, and other safety factors, alarms may be required as indicated in Paragraph 243 of Technical Bulletin "Design Criteria for Mechanical, Electric, and Fluid System and Component Reliability," EPA 430-99-74-001. Examples of such alarms are:

(a) Disinfectant container depletion.

(b) Low chlorine water pressure.

(c) Automatic changeover.

(7) Design alarm circuits to indicate circuit malfunctions.

5. Include the following in the operation and maintenance manual for a facility which could affect shellfish waters:

a. Definition of the types of incidents or malfunctions to be reported to the shellfish regulatory agency and the maximum acceptable time for accomplishing this report.

b. An emergency response plan, including procedures to be used to make reports to the shellfish regulatory agency.

c. Recommended frequency of laboratory check tests to verify performance of analyzers such as chlorine residual indicator and recorder.

d. Recommended frequency and types of laboratory tests required for monitoring coliform bacteria.

References:

1. "National Shellfish Sanitation Program Manual of Operations, Part I, Sanitation of Shellfish Growing Areas", 1965 Revision, U.S. Department of Health, Education and Welfare, Public Health Service.

2. EPA-430-99-74-001, Design Criteria for Mechanical, Electric, and Fluid System and Component Reliability, 1973., Office of Water Program Operations, EPA.

Technical Assistance:

Criteria and technical assistance for specific problems may be obtained from local or State environmental protection authorities or agencies concerned with the protection of shellfish wates. Additionally, assistance if available from the following offices:

1. Environmental Protection Agency Regional Offices

2. Shellfish Regulatory Agencies: (Appendix A)

3. Food and Drug Administration: (Appendix B)

APPENDIX A
SHELLFISH REGULATORY AGENCIES

STATE OFFICIALS RESPONSIBLE FOR GROWING AREA CLASSIFICATION AND EVALUATION OF THE EFFECT POLLUTION SOURCES HAVE ON SHELLFISH GROWING WATERS

ALABAMA

Director
Environmental Health Administration
Alabama State Department of Public Health
State Office Building
Montgomery, Alabama 36104

Director
Water Improvement Commission
Department of Public Health
State Office Building
Montgomery, Alabama 36104

CALIFORNIA

Chief
Water Sanitation Section
California State Department of Health
2151 Berkeley Way
Berkeley, California 94704
(415) 843-7900, Ext. 413

CONNECTICUT

Director
Environmental Health Services Division
Connecticut Department of Health
State Office Building
79 Elm Street
Hartford, Connecticut 06108
(203) 566-2195

DELAWARE

Chief
Bureau of Environmental Health
Department of Health & Social Services
Jesse S. Cooper Memorial Building
Dover, Delaware 19901
(302) 678-4731

Director
Division of Environmental Control
Department of Natural Resources
Legislative Avenue & William Penn Street
Dover, Delaware 19901
(302) 678-4761

FLORIDA

Director
Bureau of Sanitary Engineering
Department of Health & Rehabilitative Services
Box 210
Jacksonville, Florida 32201

Executive Director
Department of Pollution Control
2562 Executive Center Circle, East
Tallahassee, Florida 32301

GEORGIA

Director
Georgia Game & Fish Commission
Department of Natural Resources
Trinity Washington Building
270 Washington Street
Atlanta, Georgia 30334

Director
Environmental Protection Division
Water Quality Section
Room 609, Health Building
47 Trinity Avenue, S.W.
Atlanta, Georgia 30334

LOUISIANA

Head
Division of Engineering
Bureau of Environmental Engineering
Louisiana Health & Social Rehabilitation
Services Administration

Box 60630
New Orleans, Louisiana 70160
(504) 527-5113

MAINE

Resources Scientist
Maine Department of Marine Resources
State House
Augusta, Maine 04330
(207) 289-2291

Director
Fisheries Research Station
Department of Marine Resources
Boothbay Harbor, Maine 04575
(207) 633-5572

MARYLAND

Chief
Division of General Sanitation
Department of Health & Mental Hygiene
610 N. Howard Street
Baltimore, Maryland 21201

Chief
Division of Water and Sewerage
Environmental Health Administration
Department of Health and Mental Hygiene
610 N. Howard Street
Baltimore, Maryland 21201
(301) 383-2763

MASSACHUSETTS

Director
Division of Environmental Health
Massachusetts Department of Public Health
600 Washington Street
Boston, Massachusetts 02111
(617) 727-2691

MISSISSIPPI

Director
Division Sanitary Engineering
Mississippi State Board of Health
Box 1700
Jackson, Mississippi 39205

Executive Director
Water Pollution Control Commission
Box 827
Jackson, Mississippi 39505

State Biologist
Marine Conservation Commission
Ocean Springs, Mississipi 39564

NEW HAMPSHIRE

Director
Bureau of Consumer Protection - Public Health
New Hampshire Department of Health & Welfare
State Laboratory Building
Hazen Drive
Concord, New Hampshire 03301
(603) 271-2747

Director
Water Supply and Pollution Control Commission
Prescott Park
105 Loudon Road
Concord, New Hampshire 03301
(603) 271-3503

NEW JERSEY

Chief
Program Operation Section
Bureau of Water Pollution Control
Division of Water Resources
Department of Environmental Protection
209 E. State Street
Trenton, New Jersey 08625

NEW YORK

Chief
Bureau of Environmental Control
New York State Department of
Environmental Conservation
Building No. 40
State University of New York
Stony Brook, New York 11790

NORTH CAROLINA

Head
Sanitation Branch
Sanitary Engineering Section
Division of Health Services
North Carolina Department of
Human Resources
Box 2091
Raleigh, North Carolina 27602

Supervisor
Shellfish Sanitation Unit
Sanitation Branch
Sanitary Engineering Section
Division of Health Services
North Carolina Department of
Human Resources
Box 769
Morehead City, North Carolina 28557

OREGON

Chief
Office of Sanitary Services
Oregon Department of Human Resources
1400 S. W. 5th
Portland, Oregon 97201

Director
Water Quality Programs
Oregon Department of Environmental Quality
1234 S. W. Morrison
Portland, Oregon 97205

RHODE ISLAND

Chief
Division of Water Supply and
Pollution Control
Rhode Island Department of Health
75 Davis Street
Providence, Rhode Island 02903
(401) 277-2234

SOUTH CAROLINA

Director
Division of General Engineering Services
South Carolina Department of Health &
Environmental Control
J. Marion Sims Building
2600 Bull Street
Columbia, South Carolina 29201
(803) 758-5544

TEXAS

Director
Division of Marine Resources
Texas State Department of Health
1100 West 49th Street
Austin, Texas 78756
(512) 454-3781, Ext. 267

VIRGINIA

Director
Bureau of Shellfish Sanitation
Virginia State Department of Health
109 Governor Street
Room 924
Richmond, Virginia 23219
(804) 770-7937

Director
Division of Sanitary Engineering
Virginia State Department of Health
109 Governor Street
Richmond, Virginia 23219

Director
Bureau of Applied Technology
Virginia State Water Pollution Control Board
2111 North Hamilton Street
Richmond, Virginia 23230

WASHINGTON

Chief
Office of Environmental Prog.
Washington Department of Social
and Health Services
Box 1788
Olympia, Washington 98504
(206) 753-5955

Head
Water & Waste Section
Washington Department of Social
and Health Services
Box 1788
Olympia, Washington 98504
(206) 753-5954

APPENDIX B
FOOD AND DRUG ADMINISTRATION
REGIONAL OFFICES

REGION I Maine New Hampshire Vermont Massachusetts Rhode Island Connecticut	Chief, Investigations Branch DHEW, PHS, FDA 585 Commercial Street Boston, Mass. 02109 (617) 223-5850
REGION II New York New Jersey Puerto Rico	Director, National Consultant Br. DHEW, PHS, FDA 850 Third Avenue Brooklyn, N.Y. 11232 (212) 788-5000 Ext. 1451
REGION III Pennsylvania Delaware Maryland Virginia W. Virginia	Director, National Consultants Br. DHEW, PHS, FDA 2nd and Chestnut Sts. Room 1204 Philadelphia, Pa. 19106 (215) 597-7727
REGION IV Kentucky Tennessee N. Carolina S. Carolina Georgia Florida Alabama Mississippi	Regional Director DHEW, PHS, FDA 880 W. Peachtree St., N.W. Atlanta, Georgia 30309 (404) 526-3576
REGION V Ohio Indiana Michigan Illinois Wisconsin Minnesota	Director, National Consultants Br. DHEW, PHS, FDA 175 W. Jackson, Rm. A-1945 Insurance Exchange Bldg. Chicago, Illinois 60604 (312) 353-1046

REGION VI Arkansas Louisiana Oklahoma Texas N. Mexico	Director, National Consultants Br. DHEW, PHS, FDA 500 S. Ervey St. Suite 470-B Dallas, Texas 75202 (214) 749-7221
REGION VII Iowa Missouri Nebraska Kansas	Deputy Regional Food and Drug Director DHEW, PHS, FDA 1009 Cherry St. Kansas City, Mo. 64106 (816) 374-3817
REGION VIII N. Dakota S. Dakota Montana Wyoming Colorado Utah	Director Investigations Br. DHEW, PHS, FDA 500 U.S. Custom House Denver, Colorado 80202 (303) 837-4915
REGION IX Arizona California Hawaii Nevada Guam Am. Samoa	Acting Director National Consultants Br. DHEW, PHS, FDA 50 Fulton Street San Francisco, Calif. 94102 (415) 556-2062
REGION X Washington Oregon Idaho Alaska	Director, National Consultants Br. DHEW, PHS, FDA Room 5003 909 1st Avenue Seattle, Wash. 98104 (206) 442-0480

FEDERAL GUIDELINES

PRETREATMENT OF POLLUTANTS INTRODUCED INTO PUBLICLY OWNED TREATMENT WORKS

OCTOBER 1973

U.S. ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF WATER PROGRAM OPERATIONS
WASHINGTON, D.C. 20460

FOREWORD

In response to the Federal Water Pollution Control Act Amendments of 1972 (P.L. 92-500), this country has undertaken an unprecedented program of cleaning up our Nation's waters. There will be a substantial investment by Federal, State, and local government as well as by private industry in treatment works to achieve the goals of the Act. It is important that the investment in publicly owned treatment works be protected from damage and interference with proper operation.

These guidelines were developed by the Environmental Protection Agency in accordance with Section 304(f) of the Act. It is important to note the clear requirements in the Act that there be both national pretreatment standards, Federally enforceable, and pretreatment guidelines to assist States and municipalities in developing local pretreatment requirements. Some factors in pretreatment are not amenable to a national standard. The Environmental Protection Agency therefore encourages the establishment of local pretreatment requirements, tailored to the conditions at a specific publicly owned treatment works. Such requirements are considered essential to ensure compliance with permits issued under the National Pollutant Discharge Elimination System.

The guidelines were the subject of numerous extensive reviews, both within the Government and by affected segments of the public. All of the many comments were carefully considered in arriving at this publication. It is the intention of the Environmental Protection Agency to revise these guidelines from time to time as additional technical information becomes available and as industrial effluent guidelines are issued pursuant to Section 304(b) of the Act. The most valuable source of information for revisions, however, will be actual experiences of those using the guidelines. All users are encouraged to submit such information to the Director of the Municipal Waste Water Systems Division, Office of Air and Water Programs, Environmental Protection Agency, Washington, D.C. 20460.

John Quarles

Acting Administrator

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Pretreatment of Pollutants Introduced Into Publicly Owned Treatment Works

SECTION I

INTRODUCTION

1. Purpose

These guidelines are established to assist municipalities, States, and Federal agencies in developing requirements for the pretreatment of wastewaters which are discharged to publicly owned treatment works. The Guidelines also explain the relationship between pretreatment and the effluent limitations for a publicly owned treatment works.

The U.S. Environmental Protection Agency (EPA) has published Pretreatment Standards in 40 CFR 128 (Appendix A). The standards will be enforceable by the EPA. These guidelines provide technical information useful to States and municipalities in establishing pretreatment requirements to supplement the Federal pretreatment standards.

2. Authority

Authority for these guidelines is contained in Section 304(f)(1) of the Federal Water Pollution Control Act Amendments of 1972 (the Act), which states:

> "For the purpose of assisting States in carrying out programs under Section 402 of this Act, the Administrator shall publish . . . guidelines for pretreatment of pollutants which he determines are not susceptible to treatment by publicly owned treatment works. Guidelines under this subsection shall be established to control and prevent the discharge . . . of any pollutant which interferes with, passes through, or otherwise is incompatible with such works".

3. Definitions

Compatible Pollutant:

Biochemical oxygen demand, suspended solids, pH, and fecal coliform bacteria, plus additional pollutants identified in the NPDES permit if the publicly owned treatment works was designed to treat such pollutants, and in fact does remove such pollutants to a substantial degree. The term substantial degree is not subject to precise definition, but generally contemplates removals in the order of 80 percent or greater. Minor incidental removals in the order of 10 to 30 percent are not considered substantial. Examples of the additional pollutants which may be considered compatible include:

Chemical oxygen demand
Total organic carbon
Phosphorus and phosphorus compounds
Nitrogen and nitrogen compounds
Fats, oils, and greases of animal or vegetable origin (except as prohibited where these materials would interfere with the operation of the publicly owned treatment works).

Incompatible pollutant:

Any pollutant which is not defined as a compatible pollutant.

Joint Treatment Works:

Treatment works for both non-industrial and industrial wastewater.

Major Contributing Industry:

A major contributing industry is one that: 1) has a flow of 50,000 gallons or more per average work day; 2) has a flow greater than five percent of the flow carried by the municipal system receiving the waste; 3) has in its waste a toxic pollutant in toxic amounts as defined in standards issued under Section 307 (a) of the Act; or 4) has a significant impact, either singly or in combination with other contributing industries, on a publicly owned treatment works or on the quality of effluent from that treatment works.

Pretreatment:

Treatment of wastewaters from sources before introduction into the joint treatment works.

4. The Federal Water Pollution Control Act Amendments of 1972

The Act established a national system for preventing, reducing, and eventually eliminating water pollution. The ultimate goal is to eliminate the discharge of pollutants into the navigable waters of the United States.

Under the National Pollutant Discharge Elimination System (NPDES), all point sources (including publicly owned treatment works) must obtain a permit for the discharge of wastewaters to the navigable waters of the United States.

The Act further requires that, as a minimum intermediate objective, all point sources other than publicly owned treatment works treat their wastewaters by the application of the best practicable control technology. Subsequently, the minimum requirement for industrial wastewaters would be the application of best available treatment technology. For publicly owned treatment works, the initial objective is secondary treatment, followed by best practicable treatment technology.

Monitoring for compliance with effluent limitations and pretreatment requirements will be in accordance with EPA guidelines established under Section 304 and implemented under Section 308 of the Act.

5. NPDES Municipal Permits

Procedures developed under Section 402 of the Act will provide the details for implementation of permit programs. The purpose of the following discussion is to highlight the relation between the permit programs and the pretreatment standards and guidelines.

Under the National Pollutant Discharge Elimination System (NPDES), all point sources (including publicly owned treatment works) must obtain a permit for the discharge of wastewaters to the navigable waters of the United States. Permits will not be required for industrial sources discharging into publicly owned treatment works.

The pretreatment standards (Appendix A) will be directly enforceable by EPA on industry.

The effluent limitations for a pollutant in the discharge from a publicly owned treatment works will be individually determined by the permitting agency, based on information supplied by the municipality. These effluent limitations will be included in the discharge permit issued to the municipality for the publicly owned treatment works.

Additionally the permit for a publicly owned treatment works will require provisions for adequate notice to the permitting agency of:

a. New introductions into such works of pollutants from any source which would be a new source as defined in Section 306 of the Act if such source were discharging pollutants.

b. New introductions of pollutants into such works from a source which would be subject to Section 301 of the Act if it were discharging such pollutants.

c. A substantial change in volume or character of pollutants being introduces into such works by a source already discharging pollutants into such works at the time the permit is issued.

This notice will include information on the quantity and quality of the wastewater introduced by the new source into the publicly owned treatment works, and on any anticipated impact on the effluent discharged from such works.

The permit programs developed under Section 402 of the Act should be consulted for details regarding permit application.

6. Effluent Limitations for Publicly Owned Treatment Works

There are various sources of effluent limitations, including:

a. Effluent limitations for publicly owned treatment works (Section 301(b) of the Act). Secondary treatment information is contained in 40 CFR Part 133 (Appendix B).

b. Toxic Effluent Standards or Prohibitions (Section 307 (a) of the Act).

c. Water Quality Standards (Section 303 of the Act).

The most stringent limitation for each pollutant will govern.

SECTION III

JOINT TREATMENT AND PRETREATMENT

7. Joint Treatment

Joint treatment of industrial and municipal wastewaters in the same treatment works is generally a desirable practice. Treatment of the combined wastewaters can benefit the environment, the municipality, and industry if properly designed and operated.

Some of the advantages of joint treatment are:

a. Increased flow which can result in reduced ratios of peak to average flows.

b. Savings in capital and operating expenses due to the economics of large-scale treatment facilities.

c. Better use of manpower and land.

d. Improved operation (larger plants are potentially better operated than smaller plants).

e. Increased number of treatment modules with resultant gains in reliability and flexibility.

f. More efficient disposal of sludges resulting from treatment of wastewaters containing compatible pollutants.

In some cases, the characteristics of the industrial wastewaters may be beneficial in the publicly owned treatment works processes. For example, some industrial wastewaters contain organic material but are devoid of the nutrients required for biological treatment. In joint biological treatment the nutrients are present in the domestic wastewater and consequently do not have to be added (as they would in separate industrial treatment). For a plant required to remove nutrients, the joint biological treatment of nutrient-free organic industrial wastes would result in lower amounts of nutrients to be removed in a subsequent process.

There may be characteristics present, however, which make a wastewater not susceptible to joint treatment if introduced

directly into the municipal system. In such cases, it will be necessary to pretreat the wastewater.

8. Pretreatment Policy

The following are basic pretreatment policy considerations used in developing these guidelines:

a. Joint treatment of domestic wastewaters and adequately pretreated industrial wastewaters is encouraged where it is the economical choice.

b. In-plant measures to reduce the quantity and strength of industrial wastewater flows can be beneficial to joint treatment, and should be encouraged.

c. Pretreatment for removal of compatible pollutants is not required by the Federal pretreatment standards.

d. In recognition of the broad spectrum of industries, waste constituents, and treatment plants, State and municipal pretreatment requirements should be based on an individual analysis of the permitted effluent limitations placed on a publicly owned treatment works and on the potential for adverse effects on such works.

9. Federal Pretreatment Standards

EPA has issued standards in 40 CFR Part 128 for pretreatment of pollutants introduced into publicly owned treatment works (Appendix A). These standards are designed to protect the operation of a publicly owned treatment works and to prevent the introduction of pollutants into publicly owned treatment works which would pass through such works inadequately treated.

The pretreatment standards are intended to be national in scope, i.e. generally applicable to all situations. In many cases, it will be necessary for a State or a municipality to supplement the Federal Standards with additional pretreatment requirements which take into account local conditions. The purpose of these guidelines is to provide information to States and municipalities to assist in the development of these supplemental pretreatment requirements. The following paragraphs describe the basis and extent of the Federal pretreatment standards.

Section 128.131 of the Standards (Appendix A) is designed to protect the operation of publicly owned treatment works. Wastes which are prohibited from introduction into publicly owned treatment works are listed. This Section is applicable to non-domestic users only.

Section 128.133 is designed to prevent the introduction of incompatible pollutants to publicly owned treatment works which would pass through such works inadequately treated. Any pollutant that is not a compatible pollutant as defined in Section 128.121 is by definition incompatible. Section 128.133 is applicable only to "major contributing industries" as defined. Pretreatment is required for incompatible pollutants to the levels of best practicable control technology currently available as defined for industry categories in guidelines issued pursuant to Section 304(b) of the Act. Provision is made for the Administrator to segment the industrial users of municipal systems as a special category for the purposes of defining best practicable control technology currently available. Provision is also made to permit a less stringent pretreatment standard for an incompatible pollutant if the municipality is committed in its NPDES permit to remove a specified percentage of the incompatible pollutant. These requirements are based on the premise that incompatible pollutants introduced into a publicly owned treatment works generally should not pass through such works in amounts greater than would be permitted for direct discharge.

Biochemical oxygen demand, suspended solids, pH, and fecal coliform bacteria, which are defined as compatible, are the pollutants used to describe the effluent quality attainable by secondary treatment in 40 CFR Part 133 (Appendix B). Not later than July 1, 1977, secondary treatment effluent limitations must be met by all publicly owned treatment works which discharge into navigable waters unless more stringent effluent limitations are necessary to ensure compliance with water quality standards or toxic effluent standards.

The terms compatible and incompatible pollutant should not be misinterpreted. For incompatible pollutants, it will be necessary for the municipality to assess the capabilities of its treatment works in order to determine whether it can make a commitment in its NPDES permit to remove some percentage of the incompatible pollutants in the treatment works. Such a commitment might be made if there is some removal of incompatible pollutants in the treatment works which occurs as an incident to the removal of compatible pollutants. In this case it must be determined that the incidental removal can be

relied upon and will not cause harm to the treatment works or interfere with its operation (including sludge handling and disposal processes).

There will also be situations when the Federal pretreatment standards (without credit for removal in the publicly owned treatment works) will not be sufficient to protect the opeation of the publicly owned treatment works. This might be the case when the quant .; of an incompatible pollutant introduced by all major contributing industries would result in a concentration of the pollutant in the influent to the treatment works which would inhibit the performance of the treatment process. In such a case, the municipality would have to supplement the Federal standards.

Pretreatment for removal of compatible pollutants is not required by the Federal pretreatment standards. This is based on the premise that pretreatment facilities should not be required for removal of compatible pollutants as a substitute for adequate municipal waste treatment works. This, however, does not preclude State or local pretreatment requirements for compatible pollutants. Pretreatment of wastewaters containing compatible pollutants may be necessary in the form of spill protection or flow equalization in order to ensure compliance with the Federal pretreatment standards and permitted effluent limitations.

SECTION IV

STATE AND LOCAL
PRETREATMENT REQUIREMENTS

10. Objectives

The Act specifically provides for pretreatment requirements established by State or local law not in conflict with the Federal standards in Appendix A. The Federal standards were established on the basis that each publicly owned treatment works may require pretreatment by users, consistent with applicable State or municipal law. The State or local pretreatment requirements can recognize specific factors (such as treatment processes and plant capacities) which would not be national in scope.

11. Pretreatment Information

Pretreatment information has been compiled, in appendices to these guidelines, as a data source to assist municipalities and others in arriving at effective pretreatment requirements to supplement the Federal pretreatment standards for a specific publicly owned treatment works. This subsection describes the information available, how it was developed, and its application.

a. Information on Materials which Inhibit Biological Treatment Processes

The information in Appendix C identifies concentrations of various materials which can inhibit four types of biological treatment processes: activated sludge, trickling filter, anaerobic digestion, and nitrification. This information was derived from data reported in the technical literature. Documented information on this subject is limited, especially for the synergistic effects of many pollutants present in the wastewaters. Caution must be exercised in applying the data to a specific situation. Appendix C should be used as a guide to evaluate when more detailed study is necessary.

In practice, the concentrations of the materials in the influent to the publicly owned treatment works should be determined. Comparison with the concentrations in Appendix C will indicate whether or not there may be problems. If the influent wastewater concentration is close to the inhibitory concentration

in Appendix C, then further study may be necessary. The wastewaters must be analyzed to determine the presence of inhibitory materials and their potential impact on treatment plant performance. This includes consideration of intermittent batch discharges, variations in concentration, and background levels already present in the wastewater. When inhibitory material is present, testing the public water supply will provide an indication of a domestic source of the inhibitory material. However, it must be realized that materials of this type can also be added during domestic water usage.

If information is not given in Appendix C concerning a suspected inhibitory material, it may be necessary to obtain additional data. Potential sources of such data include works treating similar wastes or the results of treatability studies.

b. Information on Industrial Wastewater Characteristics and Pretreatment Unit Operations

The information in Appendix D identifies wastewater characteristics and pretreatment unit operations for twenty-two industrial groups. Characteristics which may require pretreatment or are significant to the joint treatment design are indicated. Also, the unit operations which may be necessary to meet the pretreatment requirements are listed. It is emphasized that the listed unit operations are not mandatory. It is anticipated there will be cases when not all unit operations shown will be needed and other cases where additional unit operations will be needed.

For each of sixteen industries in Appendix D a brief summary is provided concerning the nature of the industry, industrial practices, and pretreatment information.

Appendix D groups the industries in terms of Standard Industrial Classification Codes. These codes are as contained in the 1972 edition of the Standard Industrial Classification Manual prepared by the Executive Office of Management and Budget. The Manual is available from the Superintendent of Documents, Government Printing Office, Washington, D. C. 20402. For some industry groups, subgroups with common pretreatment characteristics have been identified.

The following industry groups are included in Appendix D:

Paper and Allied Products
Dairy Products
Textiles
Seafoods
Pharmaceuticals
Leather Tanning and Finishing
Sugar
Petroleum Refining
Meat Products
Grain Milling
Fruit and Vegetables
Beverages
Plastic and Synthetic Materials
Blast Furnaces, Steel Works, and Rolling and Finishing
Organic Chemicals
Metal Finishing
Inorganic Fertilizers
Electric and Steam Generation
Aluminum
Flat Glass, Cement, Lime, Concrete Products, Gypsum, and Asbestos
Inorganic Chemicals
Industrial Gas Products

The major data sources used to characterize the wastewater include:

(1) Industrial effluent guidance documents developed by EPA.

(2) EPA research reports.

(3) Information in the technical literature.

Most of the data were derived from EPA publications; other sources were used to fill in data gaps. Ranges of different waste constituents present in industrial wastewaters were designated on the basis of a review of the data available.

The following classification system was used to describe the characteristics of industrial wastewaters in relation to domestic wastewaters:

Waste Constituents	Classification			
	Low	Average	High	Extremely High
BOD_5, mg/L	< 200	200-300	300-1,000	> 1,000
COD, mg/L	< 300	300-450	450-1,500	> 1,500
SS, mg/L	< 200	200-300	300-1,000	> 1,000
Temp., °C	< 15	15-25	> 25	-
pH	< 6 (acid)	6-9	> 9 (alkaline)	-

The wastewater characteristics information can be used to identify conditions which should be carefully evaluated when establishing pretreatment requirements for a specific industry and in the design of the joint treatment works. The list of wastewater characteristics can be used as a guideline for developing a wastewater testing program for a particular industry.

For industrial wastewaters from each industry group or pretreatment sub-group, pretreatment unit operations generally considered necessary for three types of municipal secondary treatment processes are identified. These processes are:

1. Suspended biological systems (activated sludge process including modifications, aerated lagoon process).

2. Fixed biological systems (trickling filter and modifications, rotary disc).

3. Independent physical/chemical system (chemical addition, sedimentation, pH adjustment, filtration, carbon adsorption).

Before application of the pretreatment unit operations information, full consideration must be given to Federal pretreatment standards, permit effluent limitations, relative flow ratios, and pollutants which could inhibit biological processes.

12. Pretreatment Ordinance

National requirements for major contributing industries will be controlled under the pretreatment standards (Appendix A). However, it is important that no discharge, from any source, to the publicly owned treatment works cause physical damage, interfere with treatment processes, or result in a violation of effluent limitations. There must, therefore, be a legal basis for regulating and controlling all discharges to the publicly owned treatment works. A municipal ordinance or

statute, embodying the pretreatment principles in these guidelines, would meet this requirement. It may be necessary to establish a local system which will allocate waste loads to industrial users so that biological treatment processes are not inhibited and to ensure that effluent limitations are met.

Detailed information and suggested formats are readily available regarding ordinances to regulate the use of sewers and the wastewaters discharged to them. Many States and regional authorities have published instructions or model ordinances. These sources should be consulted for comprehensive information on ordinance preparation. The ordinance should then be adapted to local conditions and to the pretreatment principles in these guidelines.

13. Example Calculations

When the Federal pretreatment standards (Appendix A) govern, industrial users will be able to determine their pretreatment requirements with other information which is publicly available. However, when effluent limitations (such as water quality standards or toxic effluent standards) govern for a particular pollutant, then the pretreatment requirements may have to be made more stringent than the Federal standards, so that effluent limitations are met. In this case, it will be necessary for the municipality to allocate loads of these pollutants which the industry or industries will be permitted to introduce into the municipal system.

There are numerous ways to accomplish waste load allocation. Some large municipalities, where there are many industries of the same type and similar size, specify an allowable pollutant concentration to be met by all users.

Another method would be to allocate waste loads in proportion to the waste load which would be allowable if the Federal pretreatment standards governed. This procedure is illustrated in the following example:

Wastewater flow	8 MGD

Major Contributing Industries:

Industry X

Production	100 tons/day
Wastewater flow	1 MGD
Wastewater contains incompatible pollutant I	

Industry Y

Production	200 tons/day
Wastewater flow	1 MGD
Wastewater contains incompatible pollutant I	

The guidelines for best practicable control technology currently available for pollutant I are:

Industry X	1.0 pounds/ton
Industry Y	1.5 pounds/ton

The Federal pretreatment standards for the major contributing industries would be as follows (the municipality is not committed in its NPDES permit to remove any percentage of the incompatible pollutant I):

Industry X: 100 tons/day x 1.0 pound/ton = 100 pounds/day

Industry Y: 200 tons/day x 1.5 pound/ton = 300 pounds/day

Total 400 pounds/day

However, the municipality makes a determination, based on an evaluation of the permitted effluent limitations for the treatment works, that it can accept a total of only 280 pounds per day of incompatible pollutant I. If the allocation is in proportion to the quantity of pollutant each could have introduced under the Federal pretreatment standards, then:

Pollutant I Allocation to Industry X =

$$\frac{100}{400} \quad (280) = 70 \text{ pounds/day}$$

Pollutant I Allocation to Industry Y =

$$\frac{300}{400} \quad (280) = 210 \text{ pounds/day}$$

14. Other Considerations

The sample calculations presented in the immediately preceding Subsection show one method for determining waste load allocations. However, in addition to ensuring that the effluent limitations are met, it is necessary to evaluate the industrial wastewaters to ensure that there is no interference with the publicly owned treatment works operation.

Some of the factors to be evaluated are:

a. Conformance with Federal pretreatment standards (Appendix A).

b. Compatibility with the entire treatment works, including sewers, pumping stations, and sludge handling and disposal. Potential for the following types of interference should be considered:

   (1) Severe corrosion damage.

   (2) Significant deposits or abrasion which would substantially reduce the design capacity of sewers and wet wells or which would cause structural collapse.

   (3) Pollutant concentration in sludges such that sludge handling, stabilization, or disposal is adversely affected.

c. Cost-effectiveness of treatment in the publicly owned treatment works compared with pretreatment.

d. Possible presence of materials, in significant concentrations, which could inhibit the treatment process (see Appendix C).

e. Need for pretreatment unit operations discussed in Section IV-Subsection II and in Appendix D.

f. Applicability of more stringent State or local pretreatment requirements which govern.

g. Need to conduct treatability studies or test programs to verify findings.

APPENDIX A

federal register

THURSDAY, NOVEMBER 8, 1973

WASHINGTON, D.C.

Volume 38 ■ Number 215

PART III

ENVIRONMENTAL PROTECTION AGENCY

■

WATER PROGRAMS

Pretreatment Standards

EC15

Title 40—Protection of the Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

SUBCHAPTER D—WATER PROGRAMS

PART 128—PRETREATMENT STANDARDS

On July 19, 1973, notice was published in the FEDERAL REGISTER that the Environmental Protection Agency was proposing standards for pretreatment of pollutants introduced into publicly owned treatment works pursuant to section 307(b) of the Federal Water Pollution Control Act Amendments of 1972 (the Act). Written comments on the proposed rulemaking were invited and received from interested parties and the public. In addition, a public hearing was held in Washington, D.C., on September 26, 1973. The Environmental Protection Agency has carefully considered all comments received and the record of the public hearing. All written comments and a transcript of the public hearing are on file with the Agency. As indicated below, the regulation has been modified in response to some of the comments. The following discussion also outlines the reasons why other suggested changes were not made.

Under section 307(b) of the Act, Federal pretreatment standards are designed to achieve two purposes: (1) To protect the operation of publicly owned treatment works, and (2) to prevent the discharge of pollutants which pass through such works inadequately treated.

Section 128.131 sets forth a number of prohibitions designed to protect the operation of publicly owned treatment works. The prohibitions are self-explanatory. One commenter suggested that § 128.131 is deficient in that it fails to impose specific numerical limitations on the discharge of pollutants that interfere with the operation of publicly owned treatment works. However, the Agency has been unable to formulate such specific numerical limitations. In the first place, the data that are presently available are not considered sufficient to support uniform national standards prescribing permissible concentrations of particular pollutants in publicly owned treatment works. Moreover, the degree that any pollutant interferes with the operation of a publicly owned treatment works depends on the concentration of pollutant in the treatment works itself, rather than the concentration in each user's effluent. But for a national pretreatment standaard to be workable and enforceable, it must prescribe the quality of the user's effluent; otherwise, the user will not know what steps he must take to comply with the standard. It is impossible in a uniform national pretreatment standard to relate the quality of the user's effluent to the concentration of various pollutants in the publicly owned treatment works, since this relationship will vary in each sewer system depending on the quantity of the user's effluent as compared with the quantity of other effluents in the system.

Section 128.133 is based on the premise that pollutants which pass through publicly owned treatment works in amounts greater than would be permitted as a minimum treatment requirement for similar industrial sources discharging directly to navigable waters should be considered adequately treated. The fact that a discharger chooses to use a municipal sewer system, rather than discharging his wastes directly to the navigable waters, should not as a matter of general principle involve a penalty to the environment.

On the basis of this premise, § 128.133 requires users in industrial categories subject to effluent guidelines issued under section 304(b) of the Act, which are discharging incompatible pollutants to publicly owned treatment works, to adopt best practicable control technology currently available, as defined by the Administrator pursuant to section 304 (b) of the Act.

During the public comment period, questions were raised as to whether the effluent limitations guidelines would be appropriate in all cases for application to users of publicly owned treatment works. The Agency recognizes that for some industrial categories it may be necessary to further refine the effluent limitations guidelines to deal with problems that may arise in the application of such guidelines to users of publicly owned treatment works. However, the Agency believes that any adjustments required for particular industrial categories should be considered in connection with the promulgation of the individual effluent guidelines, rather than in the national pretreatment standard. Accordingly, when effluent limitations guidelines are promulgated for individual industrial categories, the Agency will also propose a separate provision for their application to users of publicly owned treatment works. Additional language has been added to § 128.133 to clarify this intent.

It was unclear whether § 128.133 as proposed covered sources that would be new sources if they were discharging directly into the navigable waters. Section 307(c) of the Act requires promulgation of separate pretreatment standards for such sources. Pursuant to section 307(c), the Agency has proposed pretreatment standards for such sources in connection with its proposal of new source performance standards under Section 306 of the Act. Accordingly, § 128.133 has been modified to make it clear that it covers only sources that are not subject to section 307(c) of the Act.

Section 128.133 allows a credit for the percentage removal of an incompatible pollutant to which the publicly owned treatment works is committed in its permit. To insure the basis for allowing such credit, a commitment with respect to a percentage removal of an incompatible pollutant will be included in the permit at the request of a municipality where a basis for such commitment can be demonstrated.

Some commenters suggested that the credit in § 128.133 for removal at the joint treatment works, where there is a commitment to such removal in the NPDES permit, is unrealistic, since municipalities will be unwilling to enter into such commitments. However, in order to achieve the goal of preventing the discharge of incompatible pollutants through municipal systems in amounts greater than the minimum requirements if the discharge were directly into the navigable waters, it is necessary that the required reduction be contained in an enforceable commitment either on the part of the industrial user or the joint treatment works. The industrial user should not be relieved of the commitment to achieve the required degree of reduction except to the extent that the joint treatment works is able to assume a commitment to remove the pollutant.

One commenter suggested that users should be required to comply with toxic effluent standards under section 307(a) of the Act, as well as the requirement of best practicable control technology currently available under section 301(b) and 304(b) of the Act. However, toxic effluent standards will be designed to protect aquatic life in the receiving body of water from both acute and chronic effects. Acute effects will be covered by concentration standards while chronic effects will be covered by weight limitations. Both types of standards will be applicable to the discharge from the publicly owned treatment works. Toxic effluent standards will not be designed to protect sewer systems, and thus it would not be appropriate to apply them to discharges into the system. To the extent that toxic materials in the users' discharges interfere with the operation of publicly owned treatment works, the problem can be otherwise addressed under these standards (§ 128.131) or under local standards using the pretreatment guidelines issued under section 304(f) of the Act. While toxic materials in the users' discharge may appear in the sludge generated by the publicly owned treatment works, the Agency has no basis for making a national determination that the resultant sludge disposal problem is any worse than the problem that would be created if the individual users removed the toxics from their effluent and disposed of the resultant materials individually. This is a factor which must be determined by State and local authorities, taking into account the capabilities of their sludge disposal system and the pollutants present in the wastes from industrial users.

The presence of toxic pollutants in toxic amounts is utilized in the regulation in order to identify "major contributing industries" for purposes of the pretreatment requirements for incompatible pollutants. The purpose here is to identify industrial users whose effluent is significant enough to warrant the imposition of controls based on best practicable control technology currently available without undue administrative burden, rather than to indicate that it is appropriate to impose toxic effluent standards on industrial users.

The definition of "compatible pollutant" has been broadened to recognize the fact that some joint treatment works are designed to achieve substantial removal of pollutants other than the four pollutants listed in the definition in the proposed regulation (BOD, suspended solids, pH, and fecal coliform bacteria). Where the joint treatment works was designed to and does achieve substantial removal of a pollutant, it is not appropriate to require the industrial user to achieve best practicable control technology currently available, since this would lead to an uneconomical duplication of treatment facilities. While the term "substantial removal" is not subject to precise definition, it generally contemplates removals in the order of 80 percent or greater. Minor incidental removals in the order of 10 to 30 percent are not considered "substantial".

There was a diversity of comments on the length of the time for compliance and its relation to the promulgation of the definition of best practicable control technology currently available. The Act requires that pretreatment must specify a time for compliance not to exceed three years from the date of promulgation. The Agency has concluded that a period not greater than three years from the date of promulgation is appropriate for compliance for § 128.131. For Section 128.133 the same period is also considered an appropriate time for compliance. However, the standard set forth in § 128.133 will not be complete until promulgation of the separate provision, as required by Section 128.133, setting forth the application to pretreatment of the effluent limitations guideline for a given industrial category.

Accordingly, § 128.140 provides that the period of compliance with § 128.133 will not commence for any particular category of user until promulgation of that separate provision. Section 128.140 has been further modified to establish an interim requirement for commencement of construction, and a requirement for compliance reports. It was concluded that without such requirements, timely compliance with the pretreatment standard might be unenforceable as a practical matter.

Some commenters questioned the need for these pretreatment standards or the relationship between these standards and local pretreatment programs. It is important to note the clear requirements in the Act that there be both national pretreatment standards, Federally enforceable, and EPA pretreatment guidelines to assist States and municipalities in developing local pretreatment programs. The Agency recognizes that in some cases, these pretreatment standards may not be sufficient to protect the operation of a publicly owned treatment works or to enable the treatment works to comply with the terms of its NPDES permit. This may be the case, for example, when the terms of the permit for the publicly owned treatment works are dictated by water quality standards or toxic standards. In such cases, the State or municipality may have to impose more stringent pretreatment standards under State or local laws than are specified in these regulations to enable compliance with NPDES permits issued to publicly owned treatment works. The agency considers it essential that such local pretreatment requirements be established for each system where necessary to ensure compliance with the NPDES permit.

Pretreatment guidelines will be published, pursuant to section 304(f) of the Act, to assist the States and municipalities in establishing their own pretreatment requirements.

Effective date. This regulation will become effective December 10, 1973.

JOHN QUARLES,
Acting Administrator.

NOVEMBER 1, 1973.

NOTE.—The EPA pamphlet, Pretreatment of Discharges to Publicly Owned Treatment Work, is filed as part of the original document.

Sec.

128.100 Purpose.
128.101 Applicability.
128.110 State or local law.
128.120 Definitions.
128.121 Compatible pollutant.
128.122 Incompatible pollutant.
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128.124 Major contributing industry.
128.125 Pretreatment.
128.130 Pretreatment standards.
128.131 Prohibited wastes.
128.132 Pretreatment for compatible pollutants.
128.133 Pretreatment for incompatible pollutants.
128.140 Time for compliance.

AUTHORITY: Sec. 307(b) Pub. L. 92-500; 86 Stat. 857 (33 U.S.C. 1317).

§ 128.100 Purpose.

The provisions of this part implement section 307(b) of the Federal Water Pollution Control Act Amendments of 1972 (Public Law 92-500) hereinafter referred to as "the Act".

§ 128.101 Applicability.

The standards set forth in § 128.131 apply to all non-domestic users of publicly owned treatment works. The standard set forth in § 128.133 applies only to major contributing industries.

§ 128.110 State or local law.

Nothing in this part shall affect any pretreatment requirement established by any State or local law not in conflict with any standard established pursuant to this Part. In particular cases, a State or municipality, in order to meet the effluent limitations in a NPDES permit for a publicly owned treatment works may find it necessary to impose pretreatment requirements stricter than those contained herein.

§ 128.120 Definitions.

Definitions of terms used in this part are as follows:

§ 128.121 Compatible pollutant

For purposes of establishing Federal requirements for pretreatment, the term "compatible pollutant" means biochemical oxygen demand, suspended solids, pH and fecal coliform bacteria, plus additional pollutants identified in the NPDES permit if the publicly owned treatment works was designed to treat such pollutants, and in fact does remove such pollutants to a substantial degree. Examples of such additional pollutants may include:

Chemical oxygen demand
Total organic carbon
Phosphorus and phosphorus compounds
Nitrogen and nitrogen compounds
Fats, oils, and greases of animal or vegetable origin except as prohibited under § 128.131(c).

§ 128.122 Incompatible pollutant.

The term "incompatible pollutant" means any pollutant which is not a compatible pollutant as defined in § 128.121.

§ 128.123 Joint treatment works.

Publicly owned treatment works for both non-industrial and industrial wastewater.

§ 128.124 Major contributing industry.

A major contributing industry is an industrial user of the publicly owned treatment works that: (a) Has a flow of 50,000 gallons or more per average work day; (b) has a flow greater than five percent of the flow carried by the municipal system receiving the waste; (c) has in its waste, a toxic pollutant in toxic amounts as defined in standards issued under section 307(a) of the Act; or (d) is found by the permit issuance authority, in connection with the issuance of an NPDES permit to the publicly owned treatment works receiving the waste, to have significant impact, either singly or in combination with other contributing industries, on that treatment works or upon the quality of effluent from that treatment works.

§ 128.125 Pretreatment.

Treatment of wastewaters from sources before introduction into the joint treatment works.

§ 128.130 Pretreatment standards.

The following sections set forth pretreatment standards for pollutants introduced into publicly owned treatment works.

§ 128.131 Prohibited wastes.

No waste introduced into a publicly owned treatment works shall interfere with the operation or performance of the works. Specifically, the following wastes shall not be introduced into the publicly owned treatment works:

(a) Wastes which create a fire or explosion hazard in the publicly owned treatment works.

(b) Wastes which will cause corrosive structural damage to treatment works, but in no case wastes with a pH lower than 5.0, unless the works is designed to accommodate such wastes.

(c) Solid or viscous wastes in amounts which would cause obstruction to the flow in sewers, or other interference with the proper operation of the publicly owned treatment works.

(d) Wastes at a flow rate and/or pollutant discharge rate which is excessive over relatively short time periods so that there is a treatment process upset and subsequent loss of treatment efficiency.

§ 128.132 Pretreatment for compatible pollutants.

Except as required by § 128.131, pretreatment for removal of compatible pollutants is not required by these regulations. However, States and municipalities may require such pretreatment pursuant to section 307(b)(4) of the Act.

§ 128.133 Pretreatment for incompatible pollutants.

In addition to the prohibitions set forth in § 128.131, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry not subject to section 307(c) of the Act shall be, for sources within the corresponding industrial or commercial category, that established by a promulgated effluent limitations guideline defining best practicable control technology currently available pursuant to sections 301(b) and 304(b) of the Act: *Provided*, That, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant; and provided further that when the effluent limitations guideline for each industry category is promulgated, a separate provision will be proposed concerning the application of such guideline to pretreatment.

§ 128.140 Time for compliance.

(a) Any owner or operator of any source to which the pretreatment standards required by this Part are applicable, shall be in compliance with such standards within the shortest reasonable time but not later than three years from the date of their promulgation; except that for § 128.133, the three year compliance period for any user shall commence with the date of promulgation of a provision, as required by § 128.133, setting forth the application to pretreatment of the effluent limitations guidelines for the applicable industrial category.

(b) In order to ensure such compliance, each such owner or operator shall commence construction of any required pretreatment facilities within 18 months from the date of final promulgation of the provision required by § 128.133, setting forth the application to pretreatment of the effluent limitations guidelines. By the time construction is required to be commenced, each such owner or operator shall furnish to the Regional Administrator (or to any State agency with an approved NPDES permit program) a report, on a form to be prescribed by the Administrator, which shall set forth the effluent limits to be achieved by such pretreatment facilities and a schedule for the achievement of compliance with such limits by the required date. A copy of such report shall be furnished to the municipality or agency operating the publicly owned treatment works into which such pollutants are discharged. Thereafter, each such owner or operator shall furnish the Regional Administrator or his designee with such additional information or reports (including information relating to compliance with effluent limits and schedules for completion of pretreatment facilities) as he may request.

(c) Nothing contained herein shall prevent any municipality or other agency from requiring more stringent pretreatment standards or a more stringent compliance schedule, than as set forth in this part.

[FR Doc 73-23578 Filed 11-7-73 8:45 am]

APPENDIX B

federal register

FRIDAY, AUGUST 17, 1973
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Volume 38 ■ Number 159

PART II

ENVIRONMENTAL PROTECTION AGENCY

■

WATER PROGRAMS

Secondary Treatment Information

No. 159—Pt. II——1

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Title 40—Protection of Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

SUBCHAPTER D—WATER PROGRAMS

PART 133—SECONDARY TREATMENT INFORMATION

On April 30, 1973, notice was published in the FEDERAL REGISTER that the Environmental Protection Agency was proposing information on secondary treatment pursuant to section 304(d)(1) of the Federal Water Pollution Control Act Amendments of 1972 (the Act). Reference should be made to the preamble of the proposed rulemaking for a description of the purposes and intended use of the regulation.

Written comments on the proposed rulemaking were invited and received from interested parties. The Environmental Protection Agency has carefully considered all comments received. All written comments are on file with the Agency.

The regulation has been reorganized and rewritten to improve clarity. Major changes that were made as a result of comments received are summarized below:

(a) The terms "1-week" and "1-month" as used in § 133.102 (a) and (b) of the proposed rulemaking have been changed to 7 consecutive days and 30 consecutive days respectively (See § 133.102 (a), (b), and (c)).

(b) Some comments indicated that the proposed rulemaking appeared to require 85 percent removal of biochemical oxygen demand and suspended solids only in cases when a treatment works would treat a substantial portion of extremely high strength industrial waste (See § 133.102(g) of the proposed rulemaking). The intent was that in no case should the percentage removal of biochemical oxygen demand and suspended solids in a 30 day period be less than 85 percent. This has been clarified in the regulation. In addition, it has been expressed as percent remaining rather than percent removal calculated using the arithmetic means of the values for influent and effluent samples collected in a 30 day period (See § 133.102(a) and (b)).

(c) Comments were made as to the difficulty of achieving 85 percent removal of biochemical oxygen demand and suspended solids during wet weather for treatment works receiving flows from combined sewer systems. Recognizing this, a paragraph was added which will allow waiver or adjustment of that requirement on a case-by-case basis (See § 133.103(a)).

(d) The definition of a 24-hour composite sample (See § 133.102(c) of the proposed rulemaking) was deleted from the regulation. The sampling requirements for publicly owned treatment works will be established in guidelines issued pursuant to sections 304(g) and 402 of the Act.

(e) In § 133.103 of the proposed rulemaking, it was recognized that secondary treatment processes are subject to upsets over which little or no control may be exercised. This provision has been deleted. It is no longer considered necessary in this regulation since procedures for notice and review of upset incidents will be included in discharge permits issued pursuant to section 402 of the Act.

(f) Paragraph (f) of § 133.102 of the proposed rulemaking, which relates to treatment works which receive substantial portions of high strength industrial wastes, has been rewritten for clarity. In addition, a provision has been added which limits the use of the upwards adjustment provision to only those cases in which the flow or loading from an industry category exceeds 10 percent of the design flow or loading of the treatment works. This intended to reduce or eliminate the administrative burden which would be involved in making insignificant adjustments in the biochemical oxygen demand and suspended solids criteria (See § 133.103(b)).

The major comments for which changes were not made are discussed below:

(a) Comments were received which recommended that the regulation be written to allow effluent limitations to be based on the treatment necessary to meet water quality standards. No change has been made in the regulations because the Act and its legislative history clearly show that the regulation is to be based on the capabilities of secondary treatment technology and not ambient water quality effects.

(b) A number of comments were received which pointed out that waste stabilization ponds alone are not generally capable of achieving the proposed effluent quality in terms of suspended solids and fecal coliform bacteria. A few commenters expressed the opposite view. The Agency is of the opinion that with proper design (including solids separation processes and disinfection in some cases) and operation, the level of effluent quality specified can be achieved with waste stabilization ponds. A technical bulletin will be published in the near future which will provide guidance on the design and operation of waste stabilization ponds.

(c) Disinfection must be employed in order to achieve the fecal coliform bacteria levels specified. A few commenters argued that disinfectant is not a secondary treatment process and therefore the fecal coliform bacteria requirements should be deleted. No changes were made because disinfection is considered by the Agency to be an important element of secondary treatment which is necessary for protection of public health (See § 133.102(c)).

Effective date. These regulations shall become effective on August 17, 1973.

JOHN QUARLES,
Acting Administrator

AUGUST 14, 1973.

Chapter I of title 40 of the Code of Federal Regulations is amended by adding a new Part 133 as follows:

Sec.
133.100 Purpose.
133.101 Authority.
133.102 Secondary treatment.
133.103 Special considerations.
133.104 Sampling and test procedures.

AUTHORITY: Secs. 304(d)(1), 301(b)(1)(B), Federal Water Pollution Control Act Amendments, 1972, P.L. 92-500.

§ 133.100 Purpose.

This part provides information on the level of effluent quality attainable through the application of secondary treatment.

§ 133.101 Authority.

The information contained in this Part is provided pursuant to sections 304(d)(1) and 301(b)(1)(B) of the Federal Water Pollution Control Act Amendments of 1972, PL 92-500 (the Act).

§ 133.102 Secondary treatment.

The following paragraphs describe the minimum level of effluent quality attainable by secondary treatment in terms of the parameters biochemical oxygen demand, suspended solids, fecal coliform bacteria and pH. All requirements for each parameter shall be achieved except as provided for in § 133.103.

(a) *Biochemical oxygen demand (five-day).* (1) The arithmetic mean of the values for effluent samples collected in a period of 30 consecutive days shall not exceed 30 milligrams per liter.

(2) The arithmetic mean of the values for effluent samples collected in a period of seven consecutive days shall not exceed 45 milligrams per liter.

(3) The arithmetic mean of the values for effluent samples collected in a period of 30 consecutive days shall not exceed 15 percent of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period (85 percent removal).

(b) *Suspended solids.* (1) The arithmetic mean of the values for effluent samples collected in a period of 30 consecutive days shall not exceed 30 milligrams per liter.

(2) The arithmetic mean of the values for effluent samples collected in a period of seven consecutive days shall not exceed 45 milligrams per liter.

(3) The arithmetic mean of the values for effluent samples collected in a period of 30 consecutive days shall not exceed 15 percent of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period (85 percent removal).

(c) *Fecal coliform bacteria.* (1) The geometric mean of the value for effluent samples collected in a period of 30 consecutive days shall not exceed 200 per 100 milliliters.

(2) The geometric mean of the values for effluent samples collected in a period of seven consecutive days shall not exceed 400 per 100 milliliters.

(d) *pH*. The effluent values for pH shall remain within the limits of 6.0 to 9.0.

§ 133.103 Special considerations.

(a) *Combined sewers*. Secondary treatment may not be capable of meeting the percentage removal requirements of paragraphs (a)(3) and (b)(3) of § 133.102 during wet weather in treatment works which receive flows from combined sewers (sewers which are designed to transport both storm water and sanitary sewage). For such treatment works, the decision must be made on a case-by-case basis as to whether any attainable percentage removal level can be defined, and if so, what that level should be.

(b) *Industrial wastes*. For certain industrial categories, the discharge to navigable waters of biochemical oxygen demand and suspended solids permitted under sections 301(b)(1)(A)(i) or 306 of the Act may be less stringent than the values given in paragraphs (a)(1) and (b)(1) of § 133.102. In cases when wastes would be introduced from such an industrial category into a publicly owned treatment works, the values for biochemical oxygen demand and suspended solids in paragraphs (a)(1) and (b)(1) of § 133.102 may be adjusted upwards provided that: (1) the permitted discharge of such pollutants, attributable to the industrial category, would not be greater than that which would be permitted under sections 301(b)(1)(a)(i) or 306 of the Act if such industrial category were to discharge directly into the navigable waters, and (2) the flow or loading of such pollutants introduced by the industrial category exceeds 10 percent of the design flow or loading of the publicly owned treatment works. When such an adjustment is made, the values for biochemical oxygen demand or suspended solids in paragraphs (a)(2) and (b)(2) of § 133.102 should be adjusted proportionally.

§ 133.104 Sampling and test procedures.

(a) Sampling and test procedures for pollutants listed in § 133.102 shall be in accordance with guidelines promulgated by the Administrator pursuant to sections 304(g) and 402 of the Act.

(b) Chemical oxygen demand (COD) or total organic carbon (TOC) may be substituted for biochemical oxygen demand (BOD) when a long-term BOD:COD or BOD:TOC correlation has been demonstrated.

[FR Doc.73-17194 Filed 8-16-73;8:45 am]

Appendix C

Information on Materials which Inhibit
Biological Treatment Processes

The following paragraphs comprise a discussion of the sources of information on various materials, which inhibit biological treatment systems, presented in this Appendix.

Copper

Rudolfs (1) has indicated that copper in raw sewage at 1 mg/L either inhibited or retarded the aerobic metabolism. Barth, et al (2), and McDermott, et al (3) have shown, from pilot-plant studies, that continuous addition of 1.0 mg/L of copper is the threshold value for activated sludge. The maximum concentration of copper that can be received continuously without having a detectable effect on common parameters for effluent quality is 1.0 mg/L (3). Where there is concern about turbidity, a concentration of 0.8 mg/L of copper appears to be the upper limit beyond which an effluent on pilot-plant studies conducted with copper sulfate and copper-cyanide complex additions.

When four-hour slug doses of copper were added to the activated sludge system, the performance was affected when the copper concentration in the feed approached 75 mg/L (2,3,4). The same studies have indicated that heavy metals present in sewage (whether alone or in combination) affected the nitrification process and that no acclimation was possible. Kalabina, et al (5) have indicated that copper fed as copper sulfate inhibited nitrification when the concentration of copper exceeded 0.5 mg/L. They also recommended a copper concentration of less than 0.1 mg/L in raw sewage for biological treatment.

With respect to anaerobic digestion, a copper concentration of 10 mg/L in raw sewage affected gas production in the digestion of primary sludge (2). When anaerobic digestion of combined primary and secondary sludges was involved, a copper concentration of 5 mg/L in raw sewage affected the digestion process (2). However, other reports indicated that copper concentrations in the range of 0.2 mg/L to 2.5 mg/L in raw sewage were deleterious to the anaerobic digestion process (1,5).

Zinc

McDermott, et al (6) and Barth, et al (2), have shown from pilot-plant studies that zinc (either in the form of $ZnSO_4$ or in the form found in a typical alkaline cyanide plating bath) added to raw sewage produced similar effects on biological

systems. The maximum level of zinc that will not produce a significant effect on treatment efficiency was indicated as being between 2.5 and 10 mg/L when continuously added to the biological system.

When zinc at a concentration of 160 mg/L was added as a slug dose over a four-hour period, a serious reduction in treatment efficiency was observed. The same authors have shown that the anaerobic digestion process was retarded when the zinc concentration in raw sewage reached 20 mg/L. This concentration is in agreement with those reported by Rudolfs (1). Other investigators have indicated a maximum concentration of 5 mg/L Zn in raw sewage to prevent decrease in gas production in the anaerobic digestion process (7,8).

Zinc concentrations of approximately 0.5 mg/L in raw sewage have been reported to inhibit nitrification process (9).

Lead

Rudolfs (1) has indicated that lead in raw sewage at concentrations of about 0.1 mg/L will inhibit or retard the aerobic biological metabolism. This is in agreement with the values reported by Kalabina from studies conducted using lead sulfate (5).

Kalabina also studied the effects of lead on nitrification process and showed that 0.5 mg/L of lead in raw sewage inhibited the nitrification process (5).

Cadmium

Mosey (10,11) reported that cadmium ions, added to experimental digesters, have a threshold value (for adverse effect on biologic treatment processes) of 0.02 mg/L and occurs at a carbonate ion concentration of 2×10^{-5} moles/L. The results also showed that the toxicity of cadmium to anaerobic digestion was pH-dependent when the pH was greater than 7.0 and independent of the pH when the pH was less than 7.0.

The foregoing results were based on laboratory studies, and the cadmium concentrations refer only to those present in the digester.

Boron and Arsenic

Banerji, et al (12) studied the effects of boron added in slug doses to activated sludge treatment. The results indicated that a slug dosage of 10 mg/L in raw waste adversely affected the performance of aerobic metabolism. However, Rudolfs (1) indicated that boron in raw sewage affected the

performance of activated sludge and trickling filters at much lower levels (1.0 mg/L and less). He also indicated that the addition of arsenic at concentrations of approximately 4 mg/L to digesting sludge inhibited or retarded the performance of digesters.

Chromium

Rudolfs (1) indicated that chromium was toxic to activated sludge and trickling filter processes when the raw sewage contained 3 mg/L total chromium. It was pointed out that when the total chromium in raw sewage was in the range of 1-5 mg/L, the anaerobic digestion process was significantly retarded.

However, the pilot-plant results of Barth, et al (2) indicate that a continuous dosage of 10 mg/L of chromate chromium was required before the aerobic process deteriorated. With respect to slug dosage, the activated sludge pilot-plant was able to withstand up to 500 mg/L of chromate chromium when applied over a four-hour period (13). Their studies also showed that the anaerobic digestion process was affected when the hexavalent chromium in raw sewage exceeded 50 mg/L. These values were significantly higher than those reported by Rudolfs (1). According to Rudolfs, hexavalent chromium concentrations at 1.0 mg/L in raw sewage affected trickling filter process, and at the 1-50 mg/L level the anaerobic digestion process was affected.

It is important to point out here that the toxicity of heavy metals on biological systems is closely associated with sulfate concentrations in raw wastewater and therefore should not be compared directly with one another without considering the concentration of the sulfate ion. Unfortunately, the studies did not report the sulfate concentrations necessary for making such a comparison.

With respect to the nitrification process, Whiteland, et al (14) have reported that the nitrification process was severely affected when the hexavalent chromium in raw sewage was in the range of 2 to 5 mg/L.

Nickel

Pilot-plant studies conducted with continuous addition of $NiSO_4$ in raw sewage indicated that nickel concentrations at 2.5, 5, and 10 mg/L affected both biological treatment efficiency and effluent clarity (15). The results indicated that nickel doses of 1 mg/L on a continuous basis can be tolerated by aerobic biological processes. However, it is important to point out

that most of the nickel reaching the aeration process passed through the effluent in soluble form (2,3). These results also indicated that the anaerobic digestion process was very resistant to nickel in the sludges. Primary sludges containing up to 40 mg/L of nickel digested satisfactorily.

However, other reports indicate (8) that nickel concentrations of 2 mg/L in raw sewage would be inhibitory to the anaerobic digestion process. In addition, the nitrification process will be severely inhibited when the nickel concentration is approximately 0.5 mg/L (9).

Cyanides

Coburn (16) reported that 5 mg/L of cyanide in raw wastewater (discharging continuously) interfered with activated sludge treatment. In trickling filter studies, cyanide in raw sewage at 30 mg/L produced poor effluent quality. However, when the cyanide concentration was only 10 mg/L, 98 to 100 percent of the cyanide was destroyed in the trickling filter (7). These levels are higher than those reported by Rudolfs (1). According to Rudolfs, 1 to 2.0 mg/L of cyanide (as HCN) in raw sewage affected the performance of the activated sludge, trickling filters, and anaerobic digestion processes (1,16). Generally, however, secondary biological treatment processes can oxidize the cyanide if acclimatized (17). Rudolfs (1) has also reported that the nitrification process was inhibited when the cyanide (HCN) concentration in raw sewage reached 2 mg/L.

Sulfides and Sulfates

Pohland and Kang (18) reported in their review of literature on anaerobic processes that when the sulfate concentration exceeded 500 mg/L, the gas production was greatly reduced. Similar results were also reported indicating that sulfate concentrations of 300 mg/L are toxic to anaerobic digestion. The sulfate toxicity was related to the reduction to sulfides during digestion (17).

Lawrence, et al (19) and Rudolfs (20) have reported that sulfide concentrations in the range of 150-200 mg/L in the digester feed would reduce gasification considerably.

Ammonia

Drague, et al (21) reported that ammonia concentrations in the range of 1,500-3,000 mg/L inhibited the anaerobic digestion process. When the ammonia concentration reached 3,000 mg/L, the feed sludge became strongly toxic to the digestion process.

This is in agreement with the values reported by Rudolfs (1). The concentration of ammonia refers to that present in the influent to the digesters of accumulated in the digesters.

Sodium Chloride

The presence of sodium chloride in raw sewage or in the digester has been reported to produce deleterious effects both in aerobic biological systems and in anaerobic digesters. Rudolfs has indicated that the gas production in anaerobic digestion will be greatly reduced when the NaCl concentration reaches 50,000 mg/L in digesters (1). Studies conducted by Kincannon (22) indicated that the laboratory-scale aerobic biological system was greatly affected at NaCl concentrations of 10,000 mg/L in raw wastewater. Similar results were reported by Lawton and Eggert (23) in the case of trickling filters.

Chloroform

Ghosh (11), in a review of the anaerobic digestion process literature, reported that chloroform addition to digesters on a continuous basis produced noticeable effects at a concentration of 10 to 11 mg/L. When chloroform application was as a slug dosage, the anaerobic process was adversely affected at 1 mg/L concentration in the feed.

Free Oil

Free oil of petroleum origin, at concentrations in the range of 50-100 mg/L, has been reported as interfering with aerobic biological treatment (24,25). The oil concentrations were measured according to the API Manual using CCl_4 extraction (26). The measurement of free oil using the API procedure may also include oily materials of animal and vegetable origin.

Other Cations (Na^+, K^+, Ca^+, and Mg^{++})

Malina (27) has presented data on the effects of several cations on anaerobic digestion. The results indicated that: Ca^{++} strongly inhibited anaerobic digestion at a concentration of 8,000 mg/L; Mg^{++} at a concentration of 2,000 mg/L; K^+ at 12,000 mg/L; and Na^+ at 8,000 mg/L. These results were in close agreement with those reported by Kugelman and McCarty (28).

Chlorinated Organic Compounds

The effect of several chlorinated organic compounds, at very low concentrations, on anaerobic digestion of biological sludges is marked, and constitutes a warning that a close watch must be kept on the disposal of these compounds. Jackson, et al (29) have summarized the results on toxicity of various chlorinated organic compounds, as indicated in Table C-1. These results indicate that chlorinated compounds can be toxic to anaerobic digestion at levels varying between 0.1 to 20 mg/L. The degree of inhibition will depend on the particular chemical itself. Further studies are required to determine the long-term effects of chlorinated organic compounds on municipal biological treatment processes when they are present separately or in various combinations.

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Table C-1

Information on Materials Which Inhibit Biological Treatment Processes

Pollutant	Concentration[1], mg/L: Aerobic Processes	Anaerobic Digestion	Nitrification	References
Copper	1.0	1.0	0.5	(1)(2)(3)(4)(5)(16)
Zinc	5.0	5.0	0.5	(2)(6)(7)(8)(9)
Chromium (Hexavalent)	2.0	5.0	2.0	(1)(2)(13)(14)
Chromium (Trivalent)	2.0	2000[2]	*	(1)
Total Chromium	5.0	5.0	*	(1)
Nickel	1.0	2.0	0.5	(1)(8)(9)(15)
Lead	0.1	*	0.5	(1)(5)(29)
Boron	1.0	*	*	(1)(12)
Cadmium	*	0.02[2]	*	(10)
Silver	0.05	*	*	(29)
Vanadium	10	*	*	(29)
Sulfides (S^-)	*	100[2]	*	(10)(19)(20)
Sulfates (SO_4^-)	*	500	*	(10)(17)(18)(19)(20)
Ammonia	*	1500[2]	*	(17)(18)(30)
Sodium (Na^+)	*	3500	*	(27)(28)(30)
Potassium (K^+)	*	2500	*	(27)(28)(30)
Calcium (Ca^{++})	*	2500	*	(27)(28)(30)
Magnesium (Mg^{++})	*	1000	*	(27)(28)(30)
Acrylonitrile	*	5.0[2]	*	(29)
Benzene	*	50[2]	*	(29)
Carbon Tetrachloride	*	10[2]	*	(29)
Chloroform	18.0	0.1[2]	*	(29)
Methylene Chloride	*	1.0	*	(29)
Pentachlorophenol	*	0.4[2]	*	(29)
1,1,1-Trichloroethane	*	1.0[2]	*	(29)
Trichlorofluoromethane	*	0.7	*	(29)
Trichlorotrifluoroethane	*	5.0[2]	*	(29)
Cyanide (HCN)	*	1.0	2.0	(1) (16) (17)
Total oil (Petroleum origin)	50	50	50	(24) (25) (26)

* Insufficient data

[1]Concentrations refer to those present in raw wastewater unless otherwise indicated.

[2]Concentrations apply to the digester influent only. Lower values may be required for protection of other treatment process units.

[3]Petroleum-based oil concentration measured according to the API Method 733-58 for determing volatile and non-volatile oily materials. The inhibitory level does not apply to oil of direct animal or vegetable origin.

PAPER AND ALLIED PRODUCTS

1. Industry Description

This industry includes Standard Industrial Classifications (SIC) 2610, 2620, 2630, 2640, 2650, and 2660. These classifications include the manufacture of pulp from wood, rag, and other cellulose fibers and the manufacture of paper, paperboard, and building products. The manufacture of converted paper and paperboard products from purchased paper is not included since it involves a relatively dry process, whose wastewater flows and loadings are not significant to the design of municipal systems. Therefore, the plants making converted paper and paperboard products are excluded.

The manufacture of paper and allied products involves the preparation of wood and other raw materials, separation and recovery of cellulose fibers, and blending of the fibers with proper additives to produce "furnish", which is formed into paper. The additives include: sizing materials such as alum and resins, sodium aluminate, and wax emulsions; synthetics, such as acrylics, isocyanates, and fluocarbons; and fillers such as clays, calcium carbonate and sulfate, talc, barium sulfate, aluminum compounds, and titanium oxide. When fillers are used, retention aids (starches or synthetic resins) are added to increase the retention of the filler.

The principal operations involved in the manufacture of pulp and paper are:

Wood Preparation
Pulping (mechanical, chemical, semi-chemical, and deinking)
Pulp Washing and Screening
Stock Preparation
Paper Making

The pretreatment sub-groups for this industry are as follows:

Integrated pulp and paper mills using mechanical pulping processes (bleached and unbleached)

Integrated pulp and paper mills using chemical pulping processes (unbleached)

Integrated pulp and paper mills using chemical pulping processes (bleached)

Integrated pulp and paper mills using deinked pulp

Paper and paperboard mills

Building products mills

2. Industrial Practices

The following industrial practices can significantly influence pretreatment:

Pulping Process

The pulping process determines the pulp yield and quality, and the probable organics loss in the wastewater from a pulp mill. (Mechanical pulping results in minimum dissolution of wood components, while chemical pulping solubilizes the non-cellulose components of wood tannins, lignins, wood sugars, and hemicellulose).

Recovery and Reuse of Spent Cooking Liquor

Most chemical pulping processes involve recovery and reuse of spent cooking liquor and therefore do not generate significant quantities of wastewater (1). The dissolved organics present in the liquor usually are burned in the chemical recovery furnace. The only pulping process where the spent cooking liquor is not suitable for recovery is the calcium-base acid sulfite process. The spent cooking liquor from this process, with the dissolved organics, is generally discharged with other process wastes.

Bleaching

When the desired quality of the final product requires bleaching of pulp recovered from wood, it is usually done by the addition of oxidizing chemicals, such as chlorine, chlorine compounds, peroxides, and hydrosulfites. The oxidizing chemicals react with the non-cellulose portion of the pulp, rendering it soluble in water or in alkaline solutions. As a result, the bleaching step adds to the wastewater volume and pollutant loading.

In-Plant Pollution Control Methods

Control of spills and leaks, and recovery and reuse of chemicals constitute the major pollution control practices within the paper and allied products industry. The extent of pretreatment required is largely dependent on the extent and effectiveness of the in-plant control processes adopted.

3. Wastewater Characteristics

The characteristics of the process wastewaters from each pretreatment sub-groups are shown in Table D-1-1.

Integrated pulp and paper mills generally operate continuously throughout the year except for the shutdowns for preventive maintenance and equipment repair and replacement. Modern practice is to employ continuous pulping processes, however some mills are still using batch pulping processes which result in intermittent discharges of wastewater. In addition, some older mills (generally relatively small, less than 100 tons/day) operate only 3 to 5 days per week.

The overall wastewater characteristics from wood pulping processes may vary seasonally because of the changes in characteristics of wood and variations in the temperature of the water. The volume and characteristics of the process wastewater depend upon the degree of water reuse, chemical recovery systems, and the type and quality of paper involved.

The wastewaters generated from the paper and allied products industry contain BOD, COD, suspended solids, dissolved solids, color, acidity or alkalinity, and heat. Chemical pulping processes may produce wastewaters with heavy metals (Cr, Ni, Hg, Pb, Zn). If pulp bleaching is part of the operation, the wastewaters may contain additional heavy metals (Hg) and dissolved solids (chlorides). Mercury may be present in the caustic used in pulping and bleaching operations. Zinc is used in the bleaching of ground wood pulp. Chromium, nickel, and iron may be introduced from the corrosion of process equipment.

When spent cooking liquor recovery is not practiced, the wastewaters may be acidic (pH 2 to 3) and have high concentrations of dissolved organics and inorganics. The solubilized organics and the type of cooking liquor will determine the characteristics of the wastewater.

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Major considerations in the joint treatment of paper and allied products industrial wastewaters with domestic wastewaters are the high chlorine demand and nutrient deficiency (phosphorus and nitrogen). These characteristics would significantly influence the kinetics and design of joint treatment facilities. Information available on the joint treatment of paper and allied products wastewaters indicate the following effects:

a. When neutral sulfite semichemical pulping wastewater exceeded approximately 10 percent of the total flow to a publicly owned treatment works, a retardation in the rate of BOD exertion was observed (3). Under such circumstances, the kinetic parameters and oxygen requirements should be established by specific investigation.

b. The activated carbon adsorption process can not be substituted for the biological processes to reduce BOD.

c. Attempts to use the trickling filter process (stone and plastic media) for the treatment of paper mill wastes have achieved only relatively low removals (40-60 percent BOD removal). This has been attributed primarily to high organic loading and filter clogging with fibers (4).

d. Paper mill wastewaters exhibit high chlorine demand values (20-60 mg/L), even after secondary treatment. Depending on the ratio of paper mill wastes to domestic wastes, larger chlorination facilities may be required.

e. When paper mill waste sludge forms a significant portion (approximately 60 percent) of total sludge, longer digestion periods are required for anaerobic digestion (5).

The only exceptions to the wastewater and treatability characteristics noted in the preceding discussion are the wastewater generated from the converted paper and paperboard manufacturing segment of the industry, which segment uses relatively dry processes. Since the process wastewaters from this type of plant are very low in volume and contain as major constituents only BOD and suspended solids, they are readily treatable in municipal systems.

4. Pretreatment

The pretreatment unit operations which may be necessary for various types of joint treatment processes are shown in Table D-1-2.

The neutralization requirements depend primarily on the pulping process and on the related recovery and reuse practices. When spent cooking liquor is discharged to municipal sewers, special care must be taken to insure control of pH, organic shock loads, and color (if present). If bleaching is part of the operation, pH adjustment may be necessary before mixing with other wastes. Spills of spent liquors and pulp washing water may introduce shock loads of pH and organic material if their discharge into the municipal sewer system is not carefully controlled. In the absence of effective in-plant control procedures, adequate equalization and extensive pH and conductivity control may be required to protect the operation of a joint treatment facility.

The heavy metal concentrations in the paper and allied products industry wastewaters are very low and generally do not require pretreatment. Nevertheless, their levels should be determined to insure that effluent limitations are not exceeded where heavy metals are a significant factor.

Table D-1-1

Wastewater Characteristics
Paper and Allied Products

Characteristics	Mechanical Pulping (Bleached & Unbleached)	Chemical Pulping (Unbleached)	Chemical Pulping (Bleached)	Deinking Pulp	Paper and Paperboard	Building Products
Industry Operation	Year-round	Year-round	Year-round	Year-round	Year-round	Year-round
Flow	Continuous	Continuous	Continuous	Continuous	Continuous	Continuous
BOD	EXTREMELY HIG	AVERAGE-EXT. HIGH	AVERAGE-EXT.HIGH	HIGH	AVERAGE-HIGH	EXTREMELY HIGH
TSS	HIGH	LOW-HIGH	LOW-HIGH	HIGH	AVERAGE-HIGH	EXTREMELY HIGH
TDS	Average[1]	HIGH	HIGH	HIGH	Low-average	Low
COD	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH
Grit	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT
Cyanide	Absent	Absent	Absent	Absent	Absent	Absent
Chlorine Demand	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH
pH	Neutral[2]	ACID-ALKALINE	ACIDIC	ALKALINE	neutral	Neutral
Color	Low	High	High	Low	Low	Low
Turbidity	High	High	High	High	High	VERY HIGH
Explosives	Absent	Absent	Absent	Absent	Absent	Absent
Dissolved Gases	Absent	Present	Present	Absent	Absent	Absent
Detergents	Absent	Absent	Absent	Absent	Absent	Absent
Foaming	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT
Heavy Metals	ABSENT[3]	PRESENT	PRESENT	PRESENT	Absent	Absent
Colloidal Solids	Present	Present	present	present	present	Present
Volatile Organics	Absent[4]	Present	present	absent	absent	Absent
Pesticides	Absent	Absent[4]	absent[4]	absent	absent	Absent
Phosphorus	DEFICIENT	DEFICIENT	DEFICIENT	DEFICIENT	DEFICIENT	DEFICIENT
Nitrogen	DEFICIENT	DEFICIENT	DEFICIENT	DEFICIENT	DEFICIENT	DEFICIENT
Temperature	HIGH[5]	HIGH[5]	HIGH[5]	HIGH[5]	HIGH[5]	HIGH[5]
Phenol	Absent	Absent	Absent	Absent	Absent	Absent
Sulfides	Absent	Absent	Absent	Absent	Absent	Absent
Oil & Grease	Present	Present	Present	Present	Present	Present
Coliform (Total)	Average	Average	Average	Average	Average	Average

[1] High if bleaching of pulp is practiced.
[2] Acidic if bleaching of pulp is practiced.
[3] Present if bleaching of pulp is practiced.
[4] Present only from log washing operations.
[5] Higher temperature than domestic wastewater. May affect design but not harmful to joint treatment processes.

NOTE: Characteristics which may require pretreatment or are significant to joint treatment plant design are shown in UPPER CASE.
The wastewater characteristics shown reflect the Industrial Practices described in Section 2.

Table D-1-2

Pretreatment Unit Operations for the Paper and Allied Products Industry

Pretreatment Sub-Group	Suspended Biological System	Fixed Biological System	Independent Physical - Chemical System
Mechanical Pulping[1] (Unbleached)	Coarse Solids Separation + Grit Removal		
Mechanical Pulping[1] (Bleached)	Coarse Solids Separation + Grit Removal + Neutralization	Where pulp and paper wastewaters constitute more than about 10 percent of the total wastewater flow, fixed biological systems or independent physical chemical systems normally are not used. Where the pulp and paper wastewater constitute less than this proportion, the pretreatment requirements will be same as for suspended biological systems.	
Chemical Pulping[1] (Unbleached)	Coarse Solids Separation + Grit Removal + Neutralization		
Chemical Pulping[1] (Bleached)	Coarse Solids Separation + Grit Removal + Neutralization		
Deinking Pulp[1]	Coarse Solids Separation + Neutralization		
Paper & Paper Board	Coarse Solids Separation		
Building Products	Coarse Solids Separation		

[1]Equalization may be required in addition to those shown when batch pulping processes are used.

REFERENCES

1. "Industrial Waste Survey of the Paper and Allied Products Industries" Contracts #68-01-0022 and 68-01-0012, Environmental Protection Agency, Washington, D.C. (Unpublished)

2. "Paper Mills Industry Wastewater Profile," F.W.P.C.A. Contract #14-12-10, F.W.P.C.A. (November 1967).

3. "Combined Treatment of Sanitary Sewage and Semichemical Pulp Mill Waste," Technical Bulletin #42, National Council for Steam Improvement (1951).

4. "Industrial Wastewater Control," (Edited by) Gurnham, F.C., Academic Press, New York (1965).

5. "Joint Municipal and Semichemical Pulping Waste Treatment," Water Pollution Control Research Series, Publication No. ORD 1 (July 1969).

1. Industry Description

This industry includes Standard Industry Classifications (SIC) 2021, 2022, 2023, 2024, 2026, and 5043. These classifications include bulk handling, packaging, and processing (pasteurizing, homogenizing, and vitaminizing) of milk, and the manufacture of dairy products including butter, cheese, ice cream, condensed evaporated milk, and dry milk and whey.

The manufacture of dairy products involves receiving and storing raw milk, separation of excess cream, pasteurization and homogenization, fluid milk packaging, and making butter, ice cream, and cheese. In the separation step, excess cream may be skimmed off in order to standardize the butter fat content, or the raw milk may be separated by centrifuge into cream and skim milk. Separated cream is then used in butter or ice cream making, while the skim milk may be used in the production of cottage cheese and non-fat dry milk solids. Natural cheese (i.e., not cottage cheese) is made with whole milk.

Some of these processes generate by-products which may be recovered and utilized in other food manufacturing operations. Buttermilk, skim milk, and whey are produced from butter and cheese making. The regional market potential for these by-products often determines the amount of in-plant recovery.

The dairy industry is a year-round operation. Raw-milk receiving stations handle milk from the local farms for subsequent transfer to tank trucks. These stations are operated on an intermittent daily basis. The rest of the industry will operate either continuously or on an intermittent basis depending on the economics of the individual facility. In general, larger processing plants tend to be integrated plants producing more than one product.

The pretreatment sub-groups for this industry are as follows:

Cottage and Natural Cheese Products
Milk Handling and Products.

2. Industrial Practices

Product recovery is the major method for reducing wastewater loadings. The dairy industry, however, must maintain sanitary conditions and this tends to limit the amount of wastewater recycle which is practicable.

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The following industrial practices can have a major impact on the wastewater characteristics:

Whey Handling

Whey can be condensed and dried, and used as a food and feed supplement. However, there are inherent difficulties in drying the acid whey derived from cottage cheese because of its lactic acid content.

Operating Procedures

Spillage, overflow, and leakage caused by improperly maintained equipment and poor operating procedures can result in major pollutional loads due to the concentrated nature of the dairy products, e.g., whole milk has a BOD over 100,000 mg/L (0.8 pounds of BOD for every gallon of milk lost) (1).

Cleaning

High efficiency in sanitizing operations is important to minimize the usage of sanitizers and detergents. In addition, rinses can be collected and used as make-up water for sanitizers (2). Milk processing lines should be sloped to central collection points so that the milk product may be collected before the lines are sanitized.

3. Wastewater Characteristics

The characteristics of the process wastewaters from each pretreatment sub-group are shown in Table D-2-1.

Daily wastewater flows are characterized as intermittent because some major unit processes, e.g., cheese and butter making, are batch, and because milk processing equipment must be shut down daily for sanitizing to maintain rigid health standards. Relatively clean water may be a substantial portion of the total wastewater from a dairy plant. These waters are from condensers, refrigeration compressors, milk coolers, and air conditioning systems.

The major types of wastewaters from the dairy industry are:

1. Wash and rinse water from cans, tank trucks, equipment, and floors. In general, the pH of the wastewater will be affected by the cleaning compound

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(either acid or alkali) and the proportion of the wash water in the total plant wastewater flow.

2. By-products (such as buttermilk, skim milk, or whey) they are sewered rather than recovered. Buttermilk and skim milk have BOD values as high as 70,000 mg/L, while the BOD of whey is 50,000 mg/L (3).

3. Entrainment from evaporators and the sewering of spoiled or damaged products.

The wastewaters generated in the dairy industry can be characterized generally as containing high concentrations of BOD, COD, and TDS. Settleable solids are not an important consideration in most dairy wastewaters, since all the organic material is in a colloidal or dissolved state. However, sand or other gritty material may be present from tank truck washings (4). Cheese wastewaters, on the other hand, have higher concentrations of settleable solids due to the presence of curd solids.

Design considerations in the joint treatment of dairy and domestic wastewaters are the high chlorine demand and the presence of surface-active agents, coliforms, and high-septicity potential. In addition, cheese production wastewaters are usually nitrogen-deficient. Septicity should be a consideration in the design of any equalization or clarification facilities. Wastewater temperature normally would not be a consideration because of dilution in the municipal collection system.

Low-rate trickling filters are generally not effective in treating dairy wastes, because these wastes produce large quantities of biological solids which clog the filters. This problem can be overcome by high hydraulic loading and high recirculation rates (3).

4. Pretreatment

The pretreatment unit operations which may be necessary for various types of joint treatment facilities are shown in Table D-2-2.

In general, dairy wastes are amenable to biological as well as to chemical treatment if equalization and neutralization are provided as pretreatment for the dairy wastes. As the ratio of dairy waste to domestic waste increases, the need

for the suggested pretreatment also increases markedly. Where whey is present, it may be necessary to control the rate of discharge and to provide nutrient supplements at the joint treatment plant.

Table D-2-1

Wastewater Characteristics
Dairy Products

Characteristics	Milk Handling Milk Products	Natural and Cottage Cheese Product
Industrial Operation	Year-round (BATCH)	Year-round (BATCH)
FLOW	INTERMITTENT	INTERMITTENT
BOD	Average-HIGH	EXTREMELY HIGH
TSS	Low-Average	Average-EXT. HIGH
TDS	Average-HIGH	HIGH
COD	Average-HIGH	EXTREMELY HIGH
Grit	PRESENT	PRESENT
Cyanide	Absent	Absent
Chlorine Demand	HIGH	HIGH
pH	ACID TO ALKALINE	ACID TO ALKALINE
Color	HIGH	HIGH
Turbidity	High	High
Explosives	Absent	Absent
Dissolved Gases	Absent	Absent
Detergents[1]	PRESENT	PRESENT
Foaming	PRESENT	PRESENT
Heavy Metals	Absent	Absent
Colloidal Solids	HIGH	HIGH
Volatile Organics	Absent	Absent
Pesticides	Absent	Absent
Phosphorus	Present	Present
Nitrogen	Adequate	DEFICIENT
Temperature	Normal-High[2]	Normal-High[2]
Phenol	Absent	Absent
Sulfides	Absent	Absent
Oil and Grease	Present	Present
Coliform	PRESENT	PRESENT

[1]There are possible bio-static effects in the joint treatment plant attributable to large amounts of sanitizers and detergents in the dairy products wastewater.

[2]Temperature equal to or higher than domestic wastewater. May affect design but not harmful to joint treatment processes.

NOTES: Characteristics which may require pretreatment or are significant to joint treatment plant design are shown in UPPER CASE.

Wastewater characteristics shown reflect all the industrial Practices described under Section D-2.

Table D-2-2

Pretreatment Unit Operations for the Dairy Products Industry

Pretreatment Sub-Group	Suspended Biological System	Fixed Biological System	Independent Physical Chemical System
Milk Handling Milk Products	Equalization + Neutralization	Equalization + Neutralization	Equalization + Neutralization
Natural and Cottage Cheese Products	Equalization + Neutralization	Equalization + Neutralization	Equalization + Neutralization

REFERENCES

1. "Proceedings Second National Symposium on Food Processing Wastes", Denver, Colorado, Environmental Protection Agency, Water Pollution Control Research Series 12060 (March, 1971).

2. "The Cost of Clean Water, Vol. III, Industrial Profile No. 9 - Dairies", Federal Water Pollution Control Administration, Washington, D.C. (June, 1967).

3. "Study of Wastes and Effluent Requirements of the Dairy Industry", Contract No. 68-01-0023, Environmental Protection Agency, Washington, D.C. (Unpublished).

4. "Industrial Wastewater Control". (Edited by) Gurnham, C.F., Academic Press, New York (1965).

1. Industry Description

This industry includes Standard Industry Classifications (SIC) 2231, 2250, 2260, 2270, 2284, and 2297.

The textile industry involves the manufacture of fabrics from wool, cotton, and synthetic fibers; the synthesis or spinning of synthetic fibers is not included in this group, but rather is included under synthetic organic chemicals. Of the three major textiles, wool represents the smallest market and synthetic textiles the largest.

The major unit processes of the woolen textile industry include scouring, dyeing, fulling, carbonizing, bleaching, and weaving.

Raw wool is scoured to remove grease and dirt. The process employs a detergent and mild alkali at temperatures of 130°F. This operation is responsible for 55-75 percent of the total BOD load from wool finishing (1).

The dyeing process uses dyes, dyeing assistants, (e.g. acetic acid, ammonium sulfate), and dye carriers containing heavy metals. The dye carriers will be present only if the wool is being combined with a synthetic fabric, which requires a dye carrier to facilitate dye penetration (2).

Various chemicals (e.g. sulfuric acid, hydrogen peroxide, and olive oil) may be added before and during the fulling operation. These chemicals then enter the wastewater during a subsequent washing step.

Carbonizing impregnates the wool with sulfuric acid to remove any traces of vegetable matter. Bleaching may then be accomplished, with either sulfur dioxide, hydrogen peroxide, or optical brighteners.

The major unit processes employed in the cotton and synthetic textile industry include sizing, weaving, desizing, scouring, dyeing, and finishing. Chemicals used in the sizing process include starch, polyvinyl alcohol, carboxymethyl cellulose, and polyacrylic acid.

After weaving, the fabric is desized using an acid enzyme reaction. Desizing removes the chemicals added during sizing by hydrolyzing them to a soluble form.

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During scouring cotton wax and other non-cellulosic components of cotton are removed by using hot alkaline solutions. Synthetic materials require only light scouring because of the absence of chemical impurities (3).

Both cotton and synthetic fabrics are treated with special finishes, using formaldehyde and urea, and with fire retardants, such as triaziridyl phosphine oxide.

The pretreatment sub-groups for this industry are:

Wool
Cotton and Synthetic Fabrics

2. Industrial Practices

The following industrial practices can significantly affect the wastewater characteristics:

Segregation of Waste Streams

The segregation of waste streams permits recovery of heavy metals, caustic recovery and reuse, and control of toxic spills (such as dieldrin used for moth-proofing). Many of the older textile mills have a common collection system with chemical reuse, but the modern mills have a segregated collection system to permit chemical recovery and reuse.

Alkaline Wool Scouring

Alkaline wool scouring may be used in place of neutral scouring. In alkaline scouring, soda ash is added to the wash water and subsequently combines with a portion of the wool grease to from natural soap. This procedure reduces the amount of detergent required and reduces the BOD and the concentration of residual surface-active agents.

Chemical Sizing

The substitution of polyvinyl alcohol or carboxy methyl-cellulose for starch in the sizing of cotton reduces the overall BOD in the wastewater.

Pressure Dyeing Becks

The use of pressure dyeing becks in the place of atmospheric units permits reduction in the amount of dye carriers required thereby reducing the BOD and heavy metal concentrations.

3. Wastewater Characteristics

The characteristics of the process wastewaters from each pretreatment sub-group are shown in Table D-3-1.

The textile industry generally operates continuously throughout the year except for scheduled shutdowns. However, many of the individual unit operations within the industry are batch oriented. Daily wastewater flows are continuous with peak flows occurring if certain batch-type operations are used. The textile industry is usually in a state of flux, with the manufacturing process continually being modified to reflect changes in consumer trends.

Wastewaters generated in the textile industry are high in BOD, COD, TDS, and color. For synthetics, dyeing results in the largest BOD contribution, attributed to the use of dye carriers such as methyl naphthalene, biphenyl, and orthophenyl phenol, all of which have a high BOD. For cotton finishing, desizing contributes about 45 percent of the total BOD, scouring about 30 percent, and dyeing about 17 percent (1). The most significant difference between wool process wastewaters and those from the rest of the industry is the release of wastewaters with high concentrations of suspended solids and grease from the wool-scouring operation.

Textile wastewaters can vary from slightly acid to highly alkaline depending on the individual processes carried out within the plant. They generally are alkaline when caustic scouring or mercerizing is involved. Heavy metals such as copper, chromium and zinc result from the use of certain dye carriers in the dyeing operation of synthetic fabrics and of blended fabrics, e.g. cotton and rayon.

4. Pretreatment

The pretreatment unit operations which may be necessary for various types of joint treatment facilities are shown in Table D-3-2.

Table D-3-1

Wastewater Characteristics
Textile Industry

Characteristics	Wool	Cotton and Synthetics
Industrial Operation	Year-round (batch)	Year-round (batch)
Flow	INTERMITTENT[1] - Continuous	INTERMITTENT[1] - Continuous
BOD	HIGH	Average-HIGH
TSS	HIGH	Low-AVERAGE
TDS	HIGH	HIGH
COD	HIGH	Average-HIGH
Grit	PRESENT	Absent
Cyanide	Absent	Absent
Chlorine Demand	HIGH	HIGH
pH	BASIC	BASIC
Color	HIGH	HIGH
Turbidity	High	High
Explosives	Absent	Absent
Dissolved Gases	Absent	Absent
Detergents	PRESENT	PRESENT
Foaming	Present	Present
Heavy Metals	PRESENT	PRESENT
Colloidal Solids	Present	Present
Volatile Organics	Absent	Absent
Pesticides	Absent	Absent
Phosphorus	PR SENT	PRESENT
Nitrogen	DEFICIENT	DEFICIENT
Temperature	Normal-High[2]	Normal-High[2]
Phenol	Absent[3]	Absent[3]
Sulfides	Absent	Absent
Oil and Grease	HIGH[5]	Absent-Present[4]
Coliform (Fecal)	PRESENT	Absent

[1]Wastewater flow characterized by an intermittent pattern over the day.

[2]Temperature equal to or higher than domestic wastewater. May affect design but not harmful to joint treatment processes.

[3]Phenol may be present in dye carriers.

[4]Oil present in wastewaters from synthetic textiles only.

[5]Wool processing wastewaters contain high concentration of animal grease.

NOTES: Characteristics which may require pretreatment or are significant to joint treatment plant design are shown in UPPER CASE.
Wastewater characteristics shown do not reflect the industrial practices described in Section 2.

Table D-3-2

Pretreatment Unit Operations for the Textile Industry

Pretreatment Sub-Group	Suspended Biological System	Fixed Biological System	Independent Physical - Chemical System
Wool	Coarse Solids Separation + Grease Removal + Chemical Precipitation (color, heavy metals) + Equalization + Neutralization	Coarse Solids Separation + Grease Removal + Chemical Precipitation (color, heavy metals) + Equalization + Neutralization	Coarse Solids Separation + Grease Removal + Chemical Precipitation (color, heavy metals) + Equalization + Neutralization
Cotton & Synthetics	Coarse Solids Separation + Chemical Precipitation (color,heavy metals) + Equalization + Neutralization	Coarse Solids Separation + Chemical Precipitation (color,heavy metals) + Equalization + Neutralization	Coarse Solids Separation + Chemical Precipitation (color,heavy metals) + Equalization + Neutralization

REFERENCES

1. "State of the Art of Textile Waste Treatment". Water Pollution Control Research Series, 12090 ECS; Environmental Protection Agency, Washington, D.C. (1971).

2. "Industrial Waste Studies Program - Textile Mill Products", Environmental Protection Agency (Unpublished)

3. "The Cost of Clean Water - Vol. III - Industrial Waste Profile No. 4 Textile Mill Products", Federal Water Pollution Control Administration (September, 1967).

1. Industry Description

This industry includes Standard Industry Classifications (SIC) 2031, 2036, and 2094

The seafood industry is made up of many processing centers, located along the United States coastlines, with a number of the larger plants remotely located with respect to neighboring industry and population centers. The annual U.S. catch in 1968 was approximately 4 billion pounds (cleaned) with the catch being utilized as follows: 35% rendered, 30% marketed fresh, 20% canned, 10% frozen, and 5% to miscellaneous processing (1).

The seafood industry involves the processing of numerous species of seafood including: mollusks (oysters, clams, and scallops); crustaceans (crabs and lobsters); and various species of both salt- and fresh-water fish.

This industry uses the following major unit processes (1, 2): washing, eviscerating, dressing, processing, and rendering. Solid waste from these processes is significant. Average wastage for all fish and shellfish is about 30% of body weight, with values ranging from zero for whole rendered fish to 85% for some crabs (1). Some boats eviscerate and clean fish at sea, thereby decreasing waste quantities at the shore-side processing plant. Many plants use substantial amounts of sea water for cleaning operations.

Rendering of whole fish and fish by-products produces fish meal, oil, and solubles. Currently, four classes of rendering processes are used: dry, wet, solvent extraction, and digestion. Wet rendering is the most prominent process. In this process, the by-products are cooked with steam, and the material is pressed to yield a solid cake and press liquor. The liquor is centrifuged to obtain fish oil and stick water. The stick water is evaporated to give condensed fish solubles.

Because of the similarity of the pollutants significant to pretreatment of wastewaters from the seafood industry, there are no separate pretreatment sub-groups for this industry.

2. Industrial Practices

The following industrial practices can significantly influence the wastewater characteristics.

Solid Waste Handling

The handling of the solid process wastes in a dry form substantially decreases waste loadings in the wastewater.

Process Water Conservation

New techniques may be introduced to reduce the amount of process water usage, e.g., using counter-current washing.

3. Wastewater Characteristics

The characteristics of the process wastewaters from the industry are shown in Table D-4-1.

The seafood processing industry is seasonal, but wastewater flows are relatively constant during operation. Wastewaters include various auxiliary sources such as cooling water and cooling waters from refrigeration systems.

The wastewaters generated from seafood processing contain as major constituents BOD, COD, TSS, TDS, and oil. The occurrence of the oil component depends on whether oily or non-oily seafood is being processed and the processing operations employed. Considerations of significance to the joint treatment of seafood wastewaters and domestic waste include high chlorine demand, the presence of surface-active agent, fecal coliform, and high concentrations of chlorides and other dissolved solids from sea water usage within the plant.

4. Pretreatment

The pretreatment unit operations which may be necessary for various types of joint treatment facilities are shown in Table D-4-2.

Very little treatability information is available for seafood-processing wastewaters. If seawater is used as process water, a sufficient dilution of the process water by domestic wastewater is required so that dissolved solids and chlorides will not cause problems in a joint biological treatment plant. When seawater is used exclusively, the dilution ratio should be about 3 parts domestic wastewater to 1 part seawater. Oil separation may be a pretreatment consideration if oily fish, such as tuna, sardines, herring, cod, haddock, halibut, etc., are processed in a manner which results in significant quantities of oil in the wastewater.

Table D-4-1

Wastewater Characteristics
Seafood Industry

Characteristics	Classification
Industrial Operation	SEASONAL
Flow	Continuous
BOD	Average-HIGH
TSS	Average-HIGH
TDS	Average-HIGH
COD	Average-HIGH
Grit	Absent
Cyanide	Absent
Chlorine Demand	Average-HIGH
pH	Neutral
Color	Average-HIGH
Turbidity	High
Explosives	Absent
Dissolved Gases	Absent
Detergents	Present
Foaming	Absent
Heavy Metals	Absent
Colloidal Solids	Average-HIGH
Volatile Organics	Absent
Pesticides	Absent
Phosphorus	Adequate
Nitrogen	Adequate
Temperature	Normal-High[1]
Phenol	Absent
Sulfides	Absent
Oil & Grease	Average-HIGH[2]
Coliform (Fecal)	PRESENT
Coliform (Total)	PRESENT

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[1] Temperature equal to or higher than domestic wastewater. May affect design but not harmful to joint treatment processes.

[2] Depending upon whether oily or non-oily seafood is being processed.

NOTE: Characteristics which may require pretreatment or are significant to joint treatment plant design are shown in UPPER CASE.
Wastewater characteristics shown reflect the handling and disposal of solid wastes in dry form as described in Section 2.

Table D-4-2

Pretreatment Unit Operations for the Seafood Industry

Suspended Biological System	Fixed Biological System	Independent Physical Chemical System
Coarse Solids Separation + grit removal[1] + oil separation[2]	Coarse Solids Separation + grit removal[1] + oil separation[2]	Coarse Solids Separation + grit removal[1] + oil separation[2]

[1] For shellfish processing.
[2] Oil separation may be required to reduce free floating oil and grease depending on seafood processed.

REFERENCES

1. "Current Practice in Seafoods Processing Waste Treatment", Water Pollution Control Research Series, 12060 ECF, Environmental Protection Agency, Washington, D.C. (April, 1970).

2. "Industrial Wastewater Control", (Edited by) Gurnham, C.F., Academic Press, New York (1965).

PHARMACEUTICAL INDUSTRY

1. Industry Description

This industry includes Standard Industry Classifications (SIC) 2831, 2833, and 2834. The industry produces medicinal chemicals and pharmaceutical products, including some fine chemicals which are marketed outside the pharmaceutical industry as intermediates.

In 1970, there were 1,300 producers of pharmaceuticals in the United States, and 150 of these firms produced over 95% of the industry's products (1).

In general, the pharmaceutical industry may be divided into two broad production categories; chemical synthesis products; and antibiotics (penicillin and steroids).

The manufacturing operations for synthesis products may be either dry or wet. Dry production involves dry mixing, tableting or capsuling, and packaging. Process equipment is generally vacuum cleaned to remove dry solids and then washed down.

The production of wet synthesis products and antibiotics is very similar to fine chemicals production, and uses the following major unit processes: reaction, extraction and concentration, separation, solvent recovery, and drying.

Wet synthesis reactions generally are batch types followed by extraction of the product. Extraction of the pharmaceutical product is often accomplished through solvents. The product may then be washed, concentrated and filtered to the desired purity, dried, capsulized, and packaged.

The production of antibiotics is restricted to a few of the larger pharmaceutical firms. Some antibiotics are produced in batch fermentation tanks in the presence of a particular fungus or bacterium. The culture frequently is filtered from the medium and marketed in cake or liquid form as an animal feed supplement (2). The antibiotic is extracted from the culture medium through the use of solvents, activated carbon, etc. The antibiotic is then washed to remove residual impurities, concentrated, filtered, and packaged.

The pretreatment sub-groups for this industry are as follows:

Synthesis
Fermentation

2. Industrial Practices

The following industrial practices can significantly influence the wastewater characteristics:

1. Solvent recovery is practiced in both the synthesis and the fermentation products segment of the industry. Certain products may require a high-purity solvent in order to achieve the required extraction efficiency required (3). This increases the incentive for making the recovery process highly efficient.

2. Some solvent streams which cannot be recovered economically, are incinerated. Incineration is also used to dispose of "still bottoms" from solvent recovery units.

3. Wastewater Characteristics

The characteristics of the process wastewaters from each pretreatment sub-group are shown in Table D-5-1.

The pharmaceutical plants operate continuously throughout the year and are characterized by batch operations with significant variations in pollutional characteristics over any typical operating period.

The major sources of wastewaters are product washings, concentration and drying procedures, and equipment washdown. Wastewaters generated from the pharmaceutical industry can be characterized as containing high concentrations of BOD, COD, TSS, and volatile organics. Wastewaters from some wet chemical syntheses may contain heavy metals (Fe, Cu, Ni, V, Ag) or cyanide, and generally have anti-bacterial constituents, which may exert a toxic effect on biological waste treatment processes.

Considerations significant to the design of joint treatment works are the highly variable BOD loadings, high chlorine demand, presence of surface-active agents, and the possibility of nutrient deficiency.

4. Pretreatment

The pretreatment unit operations which may be necessary for various types of joint treatment facilities are shown in Table D-5-2.

The specific type and degree of pretreatment for heavy metals and cyanide will be governed by the industrial effluent guidelines for the pharmaceutical industry. Cyanide removal or control is especially important.

Pharmaceutical industries generate wastewaters on an intermittent basis and equalization may be needed as pretreatment. When solvents are used for extraction, solvent removal can be accomplished by using gravity separation and skimming. Neutralization may be required to neutralize acidic or alkaline wastewaters generated from the production of specific pharmaceutical products.

Table D-5-1

Wastewater Characteristics

Pharmaceutical Industry

Characteristics	Synthesis	Fermentation
Industrial Operation	Year-Round (BATCH)	Year-Round (BATCH)
Flow	INTERMITTENT	INTERMITTENT
BOD	AVERAGE-HIGH	EXTREMELY HIGH
TSS	HIGH	EXTREMELY HIGH
TDS	AVERAGE-HIGH	HIGH
COD	AVERAGE-HIGH	EXTREMELY HIGH
Grit	Absent	Absent
Cyanide	PRESENT	Absent
Chlorine Demand	AVERAGE-HIGH	HIGH
pH	ACID-BASIC	ACID-BASIC
Color	Average-High	Average-High
Turbidity	Average	High
Explosives	Present	Present
Dissolved Gases	Absent	Absent
Detergents	PRESENT	PRESENT
Foaming	PRESENT	PRESENT
Heavy Metals	PRESENT	Absent
Colloidal Solids	High	HIGH
Volatile Organics	HIGH	HIGH
Pesticides	Absent	Absent
Phosophorus	DEFICIENT	DEFICIENT-HIGH
Nitrogen	DEFICIENT	DEFICIENT-HIGH
Temperature	Normal-High[1]	Normal-High
Phenol	Absent	Absent
Sulfides	Absent	Absent
Oil & Grease	Absent-Present	Absent-Present
Coliform (Total)	Absent	Absent-Present

[1] Temperature equal to or higher than domestic wastewater. May affect design but not harmful to joint treatment processes.

NOTES: Characteristics which may require pretreatment or are significant to joint treatment plant design are shown in UPPER CASE.
Wastewater characteristics shown reflect all the Industrial Practices described in Section 2.

Table D-5-2

Pretreatment Unit Operations for the Pharmaceutical Industry

Pretreatment Sub-Group	Suspended Biological System	Fixed Biological System	Independent Physical Chemical System
Synthesis	Chemical Precipitation (Heavy Metals) + Solvent Separation + Neutralization + Cyanide Oxidation	Chemical Precipitation (Heavy Metals) + Solvent Separation + Equalization + Neutralization + Cyanide Oxidation	Chemical Precipitation (Heavy Metals) + Solvent Separation + Equalization + Neutralization + Cyanide Oxidation
Fermentation	Solvent Separation + Equalization + Neutralization	Solvent Separation + Equalization + Neutralization	Solvent Separation + Equalization + Neutralization

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LEATHER TANNING AND FINISHING INDUSTRY

1. Industry Description

This industry includes Standard Industrial Classification (SIC) 3111. This classification includes tanning, curing, and finishing hides and skins into leather. The trend in the tannery industry is toward greater centralization near large metropolitan areas. This results in an increased number of municipal treatment plants treating tannery wastes. Approximately 80 percent of the output from tanneries is from cattle-hide processing, with the remainder being pigskin, calfskin, goatskin, and sheepskin processing (1).

The tanning process involves conversion of animal hide and skins into leather. The grain layer and the corium portion of the skins constitute the leather-making material and consist mainly of the protein collagen. During the tanning process, the collagen fibers are reacted with tannin, chromium, alum, or other tanning agents to form the leather. Four basic operations are involved in tanneries:

1. Beam House
2. Tan House
3. Retan, color and fat liquor
4. Finishing

The beam house operation involves: storage and trimming of hides; washing and soaking to remove dirt, salt, blood, manure and non-fibrous proteins; green fleshing for the removal of adipose fatty tissues and meat; unhairing to remove epidermis and hair; bating to remove non-collagenous proteins; and pickling in some current operations to stabilize and preserve the unhaired stock for subsequent operations. The beam house operation is typical of hide and skin processing with cattlehide processing being the most important in the U.S.

The tan house operation consists of preparing the stock for tanning. Pickling is done to make the skin acid enough to prevent precipitation of chromium during tanning. Two types of tanning are common in the United States: vegetable tanning; and chrome tanning. Vegetable tanning, the older process, is carried out in a solution containing plant extracts (such as vegetable tannin) to produce heavy leathers such as sole leathers and saddle leathers. Light leathers, such as shoe upper leathers,

are usually chrome-tanned by immersion in a bath containing proprietary mixtures of basic chromium sulfate.

Hides which have not been fully tanned in the chrome-tanning process may be retanned with either chrome, vegetable, or synthetic tanning agents. The fat liquor process involves the addition of many types of oils and greases to the tanned hides to prevent cracking and to make the leather soft, pliable, strong, and resistant to tearing. Coloring or dyeing of tanned leather may be done either before or after fat liquoring and uses either natural or synthetic dyestuffs. Finishing operations such as drying, coating, staking, and plating follow the foregoing wet processes.

The pretreatment sub-groups for this industry are:

Chrome Tanning
Vegetable Tanning

2. Industrial Practices

In-plant pollution control techniques and chemical recovery practices in tanneries vary depending on the tanning process and the economics of chemical recovery systems. In vegetable tanning, it is common practice to recycle the tanning solution. (In chrome tanning, a number of tanneries are practicing recycling of tanning solution.) Recovery of grease is normally practiced in pigskin and sheepskin tanneries.

The wastewater characteristics from the unhairing process will depend on whether the industry is practicing a "save hair" or "pulp hair" operation. A low amount of sulfide (0.5 to 1.0 percent of hide weight) removes the hair with minimal damage, while a high amount (2 to 3 percent) pulps and partially dissolves the hair. The "save hair" operation involves mechanical pulling and recovery of hair. Dissolution of hair through chemical reactions is referred to as "pulping" or "burning".

3. Wastewater Characteristics

The characteristics of the process wastewaters from each pretreatment sub-group are shown in Table D-6-1.

Most sub-processes within the tanneries are batch operated, and, therefore, the wastewater flow and characteristics fluctuate during the industry operation. In addition, week-end

shutdowns in some tanneries will result in wastewater flow only during weekdays. The seasonal variations in wastewater flow are limited to the variations in hide characteristics. In general, the waste characteristics and volume vary widely throughout the day and throughout the week in tanneries. The concentrated waste fractions (lime liquors and spent tan solutions) are derived from batch-type processes. These fractions are therefore discharged intermittently (2, 3, 4, 5).

Liquid process wastes are generated in tanneries from soaking and washing, fleshing, unhairing, bating, pickling, tanning, coloring, and fat liquoring. Auxiliary wastewaters from tanneries result primarily from boiler blowdown and from cooling, and represent only a minor fraction of the total waste load from tanneries. Therefore, only process waste streams are considered for establishing wastewater characteristics and recommending pretreatment.

The characteristics of wastewaters from tanneries vary according to the type of hide processed and the tanning process (vegetable or chrome tanning) used. The tanning process is more of an art than science, and as a result the wastewater characteristics can vary widely for the same type of hide and tanning process. The process wastewaters from tanneries contain as major constituents: BOD, COD, chromium, oil and grease, sulfide, suspended and dissolved solids, alkalinity, hardness, color, and sodium chloride. Significant pollutants that may be present in tannery wastes include: hair, hide, scraps, bits of flesh, blood, manure, dirt, salts, suspended lime, soluble proteins, sulfites, sulfides, amines, chromium salts, vegetable tannin, soda ash, sugar and starches, oils, fats and grease, surface active agents, mineral acids, and dyes (6) which contribute to the BOD and COD.

In general, washing, fleshing, and unhairing operations produce 50 percent of the total volume and approximately 70 percent of the pollutional load from tanneries. The tanning process generates from 5 to 20 percent of wastewater volume and loading (1). The dry finishing operations produce only minor quantities of wastewater from clean-up operations.

The major wastewater sources from tanneries are the beam house and the tan house operations. The beam house wastewater is highly alkaline due to the large quantities of lime used in the process. The wastewater generated from the tan house is

generally acidic due to the discharge of spent tanning solution. Normally, these wastewaters are discharged to a common collecting sewer before treatment or discharge to a municipal system. The unregulated batch dumping from bean house and tan house result in a total waste stream with varying pH values.

Mixing alkaline waste streams (from the beam house) with the acidic chrome tanning wastes would result in partial precipitation of chromium, which can be removed by clarification. There is also the hazard of the evolution of H_2S gas. Average chromium concentrations in the total tannery waste can be as high as 300 mg/L in the chrome tanning process.

The other major pollutant in tannery waste is the effluent from the lime-sulfide unhairing operation. The concentration of sulfides in tannery wastes may vary between 30 and 100 mg/L in the total effluent (2). The consequences of release of H_2S gas in the sewer lines and the effect of reducing characteristics of the sulfides on biological treatment processes should be taken into consideration in the design of joint treatment works. Hydrogen sulfide is readily released from solution as a corrosive and extremely toxic gas with an obnoxious odor. By controlling the pH of the solution above 10.0, the H_2S release can be minimized. If the pH of the wastewater is expected to be lower, the sulfide concentration should be reduced below 1.0 mg/L to prevent H_2S odor problems.

In general, tannery wastewaters are amenable to joint treatment by conventional methods, if the industrial wastewater is adequately pretreated. Most available information on the combined treatment of tannery and municipal wastewaters is from bench-scale or pilot plant operations, rather than from full-scale plant operation. This information indicates that when the tannery waste does not exceed about 10 percent of the total flow and when the tannery discharge is regular and well equalized, no difficulty with conventional sewage treatment is likely to occur (7). The tannery waste solids from the vegetable tanning process can amount to approximately 30 percent before seriously impairing gas production in anaerobic digestion. However, digestion of solids developed from chrome tannery wastes may result in gradual build-up of chromium in the digester and eventual failure of the process.

4. Pretreatment

The pretreatment unit operations which may be necessary for various types of joint treatment processes are shown in Table D-6-2. Screening to remove debris, equalization to provide uniformity of effluent, and neutralization with precautions for possible generation of hydrogen sulfide gas, to prevent excessively high pH values are generally necessary prior to discharge to a municipal collection system. Chemical precipitation may be needed to reduce the amount of chromium in the effluent.

The considerations in Table D-6-2 are based on the assumption of fat and grease recovery as a by-product. Where this is not practiced, grease removal facilities may also be needed.

Table D-6-1

Wastewater Characteristics
Leather Tanning and Finishing Industry

Characteristics	Chrome Tanning	Vegetable Tanning
Industry Operation	Year-Round (Batch)	Year-Round (Batch)
Flow	INTERMITTENT	INTERMITTENT
BOD	EXTREMELY HIGH	EXTREMELY HIGH
TSS	EXTREMELY HIGH	EXTREMELY HIGH
TDS	HIGH	HIGH
COD	EXTREMELY HIGH	EXTREMELY HIGH
Grit	PRESENT	PRESENT
Cyanide	Absent	Absent
Chlorine Demand	High	High
pH	ACID - ALKALINE	ACID - ALKALINE
Color	Present	Present
Turbidity	Present	Present
Explosives	Absent	Absent
Dissolved Gases	Present	Present
Detergents	Present	Present
Foaming	Absent	Absent
Heavy Metals	PRESENT	Absent
Colloidal Solids	Present	Present
Volatile Organics	Present	Present
Pesticides	Absent	Absent
Phosphorus	DEFICIENT	DEFICIENT
Nitrogen	Adequate	Adequate
Temperature	Normal[1]	Normal[1]
Phenol	Absent	Absent
Sulfides	Present	Present
Oil & Grease	HIGH[2]	HIGH[2]
Coliform (Total)	Low	Low

[1] Temperature equal to domestic wastewater.
[2] Oil and grease (animal origin) are significant only in pigskin and sheepskin processing wastewaters.

NOTES: Characteristics which may require pretreatment or are significant to joint treatment plant design are shown in UPPER CASE.
Wastewater characteristics shown reflect all the industrial Practices described in Section 2.

Table D-6-2

Pretreatment Unit Operations for the Leather Tanning and Finishing Industry

Pretreatment Group	Suspended Biological System	Fixed Biological System	Independent Physical Chemical System
Chrome Tanning	Coarse Solids Separation + Grit Removal + Equalization + Chemical Precipitation (Heavy Metals) + Solids Separation + Neutralization	Coarse Solids Separation + Grit Removal + Equalization + Chemical Precipitation (Heavy Metals) + Solids Separation + Neutralization	Coarse Solids Separation + Grit Removal + Equalization
Vegetable Tanning	Coarse Solids Separation + Grit Removal + Equalization + Neutralization	Coarse Solids Separararation + Grit Removal + Equalization + Neutralization	Coarse Solids Separation + Grit Removal + Equalization

1. Pretreatment requirements assume fat and grease recovery as saleable by-product.

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1. Industry Description

This industry includes Standard Industrial Classifications (SIC) 2061, 2062, and 2063. These classifications include establishments engaged in the manufacture of raw sugar, syrup, or finished (granulated or clarified) sugar from sugar cane, and the manufacture of sugar from sugar beets.

Domestic cane sugars and beet sugars provide only about 55 percent of the total sugar consumed in the United States. The remaining 45 percent of the sugar requirement is imported as raw cane sugar from foreign countries. The raw cane sugar (approximately 96 percent purity) is further purified in local sugar refineries in the United States (SIC 2062).

The production of raw sugar from sugar cane or refined sugar from sugar beets essentially involves the washing or cleaning of sugar cane or beets, extraction of sugar juice, precipitation and filtration of impurities (using lime and carbon dioxide), evaporation, crystallization, and drying of sugar crystals. Water is used in the process to wash the sugar cane or beets, to dissolve or extract sugar, and for cooling purposes.

The manufacture of sugar from sugar beets produces beet pulp and molasses as by-products. The beet pulp is pressed and dried for use as animal feed. The molasses, containing soluble non-sugars and some sugar, either is sold or is used in the Steffen Process to recover additional sugar. The Steffen Process involves the treatment of molasses with lime to recover additional sugar for recycle to the process. Wastewaters are typically added to the beet pulp and then dried, and sold as animal feed. A recent survey of 14 plants using the Steffen Process indicates that 5 plants use the Steffen Process waste to produce monosodium glutamate, while the others concentrate and dry the waste with beet pulp for use as animal feed (1). A modification of the Steffen Process, with barium hydroxide in place of the lime, is also used by some beet sugar plants (2,3).

The production of refined sugar from raw cane sugar involves washing the raw sugar to remove the molasses film from the sugar crystals, solution of the washed sugar, clarification of the solution by phosphoric acid-lime precipitation, carbonation, and/or pressure filtration, decolorization of the solution using

powdered or granular carbon, bone char or resins, and evaporation of the clarified and decolorized solution to yield crystalline sugar.

The primary uses of water are to wash the decolorizing adsorbant and to serve as a cooling and condensing medium in the evaporating processes. The first use produces an effluent containing BOD and frequently suspended solids (waste filter aid). The second use leaves the water essentially unchanged except for an increase in temperature.

The principal by-product of the process is refinery molasses which is now sold for animal feeding purposes. Spent filter aid is generally sent to authorized dump sites. Waste bone char is sold to dealers for a variety of uses such as poultry feeding.

Because of the similarity of the wastewaters from the sugar industry, there are no separate pretreatment sub-groups for this industry.

2. Industrial Practices

The following industrial practices can significantly affect the wastewater characteristics.

The production of cane sugar involves by-products such as residual sugar cane fibers and blackstrap molasses. The residual fibers are generally used as fuel or in the production of fiberboard and paper products; the blackstrap molasses is recovered and sold as such. No additional waste loads result from the recovery or reuse of by-products (4,5).

The pulp press liquor and evaporator condensates can be recycled for use in the flume-washing operation.

3. Wastewater Characteristics

The characteristics of the process wastewaters from the industry are shown in Table D-7-1. Sugar plants generally operate 24 hours a day, but because of the nature of the raw materials (sugar cane and sugar beets), the domestic sugar industry operates seasonally from 60 to 100 days a year. The sugar refineries processing domestic and imported raw sugar can operate year-round. The sugar plants generate wastewater on a continuous basis during operational periods. However, the character-

istics of the wastewater may fluctuate widely, becuase of variations in sugar content of the raw materials at different periods of the season. The variations in sugar content of raw materials are caused either by changes in weather conditions or in the storage of raw material (sugar cane or beets). In addition, hourly variations in wastewater characteristics may result from spills and leaks of sugar juice and from equipment cleanups.

The process wastewaters originate from the following operations in the production of raw cane sugar and refined beet sugar:

1. Flume washing
2. Lime cake or slurry
3. Evaporator condensates
4. Spills, leaks, and floor washing

Process wastewaters originate from the following unit operations in the refining of raw cane sugar:

1. Disposal of waste filter aid, carbonate cake, phosphoric acid precipitation scums, etc.

2. Washing of bone char and/or regeneration and re-using of resins.

3. Evaporator condensates.

The volume and characteristics of wastewater generated from the foregoing operations will depend on the degree of recycle practiced. The overall process wastewaters generally contain high concentrations of dissolved organics and suspended impurities, and are deficient in nutrients. The process wastewaters generated from each of the operations contain as major waste constituents BOD, COD, suspended solids, and heat. The wastewaters generated from sugar refineries are similar to those from sugar production from sugar cane and contain as major pollutants BOD_5 and suspended solids.

In general, the sugar industry wastewaters are amenable to treatment by joint treatment processes. The seasonal operation of some of the sugar plants and the widely-varying characteristics of the wastewaters should be taken into consideration in the design of joint treatment facilities.

4. Pretreatment

The pretreatment unit operations which may be necessary for various types of joint treatment facilities are shown in Table D-7-2.

Many sugar plants treat their wastewaters in holding lagoons, with controlled discharge of the lagoon effluent to municipal collection systems. The lagoons are effective for the removal of suspended solids and grit present in the wastewater. Typically, however, they are designed to remove only a small percentage of the BOD present in the raw wastewater (6).

The limited information available on the treatment of sugar industry wastes indicates that equalization (to reduce the fluctuations in organic loading), screening (to remove fibers), and clarification (to separate lime slurry and grit) would be needed as pretreatment before discharging these wastewaters to municipal collection systems. In addition, facilities for supplemental nutrients (nitrogen and phosphorus) at the joint treatment facility may be required.

Table D-7-1

Wastewater Characteristics
Sugar Industry

Characteristics	
Industrial Operation	SEASONAL[1]
Flow	Continuous-Variable
BOD	Low-EXT. HIGH
TSS	Low-EXT. HIGH
TDS	HIGH
COD	Low-EXT. HIGH
Grit	PRESENT
Cyanide	Absent
Chlorine Demand	HIGH
pH	Neutral
Color	Low-HIGH
Turbidity	PRESENT
Explosives	Absent
Dissolved Gases	Absent
Detergents	Absent
Foaming	Absent
Heavy Metals	Absent
Colloidal Solids	Low
Volatile Organics	Absent
Pesticides	Absent
Phosphorus	DEFICIENT
Nitrogen	DEFICIENT
Temperature	HIGH[2]
Phenol	Absent
Sulfides	Absent
Oil & Grease	Absent
Coliform (Fecal)	Absent
Coliform (Total)	PRESENT

1 Industries which only process imported raw cane sugar operate year-round.

2. Temperature higher than domestic wastewater. May affect design but not harmful to joint treatment processes.

NOTES: Characteristics which may require pretreatment or are significant to joint treatment plant design are shown in UPPER CASE.

Wastewater characteristics shown reflect all the industrial practices described under Section 2.

Pretreatment Unit Operations for the Sugar Industry

Suspended Biological System	Fixed Biological System	Independent Physical-Chemical System
coarse solids separation + equalization + grit removal + solids separation (lime slurry)[2]	coarse solids separation equalization + grit removal + grit removal + solids separation (lime slurry)[2]	coarse solids separation + grit removal + solids separation (lime slurry)[2]

1 Equalization may not be necessary, depending on specific physical-chemical processes used.

2 Grit removal and solids separation for lime slurry may be combined.

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PETROLEUM REFINING INDUSTRY

1. Industry Description

This industry includes Standard Industrial Classification (SIC) 2911. This classification includes those establishments primarily engaged in producing gasoline, kerosine, fuel oils, residual fuel oils, lubricants, and other products through distillation of crude oil, cracking, or other processes. Petroleum refining is a combination of several interdependent processes and operations, many of which are highly complex. There are at least twenty separate processes fundamental to the operation of a refinery producing the full spectrum of products from crude oil.

The major operations within a refinery include: crude oil storage; desalting; fractionation by pressure, atmospheric and vacuum distillation; thermal and catalytic cracking; reforming; polymerization; and alkylation. Other incidental operations, generally involving separation and finishing of the products to specifications, include acid treatment of lubricating oil stocks, sweetening of gasoline, extraction, and stripping. Storage of crude oil to provide adequate working supplies and to equalize process flow involves the separation of water and suspended solids from crude oil

The first major operation in a refinery is the crude oil desalting process for removing inorganic salts and suspended solids from the crude oil prior to fractionation. Water is used in the desalting process as a sequestering agent.

The crude oil after desalting is generally passsed through atomspheric and/or vacuum distillation to separate light overhead products (C_5 and lighter), side-stream distillates, and residual crude oil. Steam is used in this process, and the steam condensate from the overhead accumulation is discharged as wastewater.

The heavy fractions removed during the crude oil fractionation and distillation process can be cracked using either thermal, catalytic, or hydrocracking processes to yield light oil fractions such as domestic heating oil. The low-octane fractions obtained from the foregoing processes can be converted to yield high-octane gasoline blending stock by reforming, polymerization, and/or alkylation processes. The reforming converts naphthas to finished high-octane

gasoline. Reforming is a relatively clean process producing a low volume of dilute wastewater. The polymerization process produces wastewaters containing sulfide, mercaptans, high pH materials, and nitrogen compounds. Phosphoric acid or sulfuric acid is used in the polymerization process and generates solid wastes. The alkylation process uses a sulfuric acid or hydrofluoric acid catalyst to convert isoparaffins and olefins into high-octane motor fuel. Solvent refining is used in a refinery to extract lubricating oil fractions and aromatics from feedstocks containing various types of hydrocarbons.

A more detailed description of the individual petroleum refining processes is included in the "Industrial Waste Profile" published by the Federal Water Pollution Control Administration (now EPA) (1).

2. Industrial Practices

The petroleum refining industry uses very large quantities of water for process and cooling purposes. Approximately 90 percent of the water used in refineries is for cooling purposes. Lesser water uses include: steam generation (boiler-feed), direct processing, fire protection, and sanitary uses. Steam is used in stripping and distillation processes, where it comes in contact with petroleum products, thereby contributing to the total wastewater flow from refineries.

Oily process wastes and oil-free wastes are collected separately in some refineries so that the oily wastes can be treated for oil removal before mixing with other waste streams.

The spent caustics and spent acids are generally collected and sold or disposed by other means. Few refineries neutralize these wastes for discharge, to the wastewater collection system.

The sour water (condensates from various fractionation units) containing sulfides and ammonia is generally steam or air-stripped before being discharged to the sewer lines. A survey of petroleum refining industries in 1967 indicates that approximately 85 percent of the refineries strip the sour water before discharging to sewer lines. Depending on the pH of the sour water, the stripping can reduce the sulfide and ammonia concentrations in the final effluent.

In general, the in-plant control methods employed by the industry (sour-water stripping, spent-caustic neutralization and oxidation, slop oil recovery, etc.) will determine the final effluent characteristics and the level of pre-treatment required for discharge to municipal collection system.

The technological advances in the refining process have resulted in increasing amounts of by-product recovery and a reduction in wastewater loading. Other advances in water usage and cooling water recirculation have also resulted in the reductions in volume of wastewater discharged per unit volume of crude oil processed. It has been reported that the total effluent from older, typical, and newer refineries are approximately 250,100 and 50 gal./bbl of crude oil respectively.

The following specific in-plant practices are frequently employed:

a. Sour-condensate stripping is used to remove sulfides (as hydrogen sulfide, ammonium sulfide, and polysulfides) before the wastewater enters the sewer. The sour water is usually treated by stripping with air, stream, or flue gas. Hydrogen sulfide released from the wastewater can be recovered as sulfuric acid or can be burned in a furnace. Hydrogen sulfides at concentrations in the range of 10 to 15 mg/L can cause upsets in biological treatment plants (4), and removal of sulfides from the sour water by stripping would prevent such upsets.

b. Spent caustic neutralization is applied to both phenolic and sulfidic waste streams, but oxidation of spent caustics is limited to sulfide waste streams, since phenols inhibit the oxidation of sulfides in spent caustics.

c. Spent acids (generally sulfuric) can be recovered for reuse or sold to acid manufacturers, thereby avoiding their discharge to sewer systems. Spent catalysts such as aluminum chloride and phosphoric acid can either be regenerated for reuse or disposed of as landfill.

3. Wastewater Characteristics

The characteristics of the process wastewaters from the industry are shown in Table D-8-1. Practically all petroleum refineries use gravity oil separators to recover free oil from process effluents. The effluents from gravity oil separators are therefore used to define the wastewater characteristics in the table.

The petroleum refineries operate on a continuous basis throughout the year except for separate process shutdowns for preventive maintenance and equipment repair and rep cement. Many refineries have a segregated wastewater collection system, with separate subsystems for clean and polluted waste streams. The 'clean' waters may include pollution-free cooling waters, boiler blowdown, and cooling tower blowdown.

The characteristics of wastewater drawn from storage tanks will depend on the quality of the crude oil stored and may contain dissolved inorganics, oil, and suspended solids. The steam condensate from the overhead accumulator can be characterized as having oil, sulfides, mercaptans, and phenol. If barometric condensers are used in vacuum distillation, the condenser water will have very stable oil in emulsion. However, if the barometric condensers are replaced by surface condensers, the condenser water will be essentially free of oil.

The major wastewater from the alkylation process is the spent caustic from the neutralization of the hydrocarbon stream from the reactor. Even though the spent acids are recovered as salable by-product, leaks and spills of acid catalysts could reach the sewer lines. The major pollutants from the solvent refining processes include solvents such as phenols, glycols, and amines. Other processes for the manufacture of waxes and asphalt, and for finishing and blending of gasoline, produce relatively low volumes of dilute wastewater.

In general, the most significant process wastewaters from petroleum refining are: crude oil desalting waste, storage tank draw-off, steam condensates, spent caustics, spent acids, product losses, and leaks and spills of solvents used in extraction processes. The process wastewaters,

which come in direct contact with petroleum hydrocarbons, contain free and emulsified oil, sulfides, phenols, ammonia, BOD, COD, heavy metals, and alkalinity as major waste constituents.

The presence of oil (free and emulsified) in the wastewater could vary between 30 and 200 mg/L in the effluent from API gravity separators (3).

Refinery wastewaters generally are susceptible to conventional biological treatment methods after adequate pretreatment. In addition, phosphorus supplementation may be required in some cases to provide a nutrient-balanced system for biological treatment. This supplemental nutrient requirement will depend on the phosphorus content of the cooling tower blowdown and its inclusion in the process wastewater.

4. Pretreatment

The pretreatment unit operations for various types of joint treatment facilities are shown in Table D-8-2.

These pretreatment operations were developed primarily from information on separate treatment of these wastewaters and assume the following industrial practices:

a. Sour condensate stripping to reduce sulfides and/or ammonia

b. Spent-caustic neutralization

c. Spent-acid neutralization and recovery or disposal by other means

d. Separate collection and disposal of acid sludges, clay, and spent catalysts

e. Gravity separation of free oil from process effluents

Depending upon the in-plant control methods used within a refinery it may be necessary to add sulfide removal and neutralization to the pretreatment operations listed in Table D-8-2.

The oil concentration in the wastewater should be reduced to approximately 50 mg/L in order to insure trouble-free operation in secondary biological treatment facilities. In

addition, the presence of oil in a municipal sewer would constitute a fire and explosive hazard. For this reason, sewer ordinances generally have prohibited the discharge of refinery wastewaters to municipal facilities. A 1967 survey indicates that only 1 to 2 percent of the refineries discharge their effluent to municipal treatment systems.

Even though the current practice is to treat refinery effluent on-site, it appears that joint treatment with domestic wastes has a potential for adoption. The heavy metals present in refinery effluents (As, Cd, Cr, Co, Cu, Fe, Pb, Ni, and Zn) are generally in such low concentrations that they would not be a problem for joint treatment. If heavy metals reduction should be required by effluent guidelines, provisions should be made for their removal before discharging to municipal systems. The biological sludge developed from refinery wastewaters can be thickened and dewatered by conventional methods (vacuum filters and centrifugation).

4. Pretreatment

The pretreatment unit operations which may be necessary for various types of joint treatment facilities are shown in Table D-8-2.

The technological advancements in the refining process have resulted in increasing amounts of by-product recovery and a concomitant reduction in wastewater loading. Other advances in water usage and cooling water recirculation have also resulted in the reductions in volume of wastewater discharged per unit volume of crude oil processed.

The most prevalent in-plant treatment methods are sour-water stripping, neutralization and oxidation of spent caustics, ballast water treatment, and slop-oil recovery. These measures substantially reduce the waste loadings and to a significant degree are required to protect subsequent treatment. In addition to these in-plant control methods, practically all of today's refineries use gravity oil separators to recover free oil from process effluents. For these reasons and because the data available on raw wastewater characteristics are limited, the effluents from gravity oil separators are used to define the wastewater characteristics from petroleum refineries.

Table D-8-1

Wastewater Characteristics*

Petroleum Refining Industry

Characteristics Industry Operation	Year-Round
Flow	Continuous Average[1]
BOD	Low
TSS	HIGH
TDS	HIGH
COD	
Grit	PRESENT
Cyanide	Present
Chlorine Demand	High
pH	ACID -ALKALINE
Color	Low
Turbidity	Low
Explosives	PRESENT
Dissolved Gases	Present
Detergents	Low
Foaming	Absent
Heavy Metals	PRESENT
Colloidal Solids	Low
Volatile Organics	Present
Pesticides	Absent
Phosphorus	DEFICIENT[2]
Nitrogen	Adequate
Temperature	HIGH[3]
Phenol	HIGH
Sulfides	HIGH
Oil & Grease	HIGH
Coliform (Total)	Low

*After gravity oil separation (API Separators).
[1]The refinery wastewaters have high COD/BOD ratios indicating the presence of biologically resistant organic chemicals.
[2]If cooling tower blowdown is also discharged with the process wastewater, phosphates may be present depending on water treatment.
[3]Temperature higher than domestic wastewater. May affect design but not harmful to joint treatment processes.

NOTES: Characteristics which may require pretreatment or are significant to joint treatment plant design are shown in UPPER CASE. Wastewater characteristics reflect all the Industrial Practices described in Section 2.

Table D-8-2

Pretreatment Unit Operations for the Petroleum Refining Industry[1]

Suspended Biological System	Fixed Biological System	Independent Physical Chemical System
Equalization + Coagulation - Solids Separation[2] + Neutralization	Equalization + Coagulation - Solids Separation[2] + Neutralization	Equalization + Coagulation - Solids Separation[2] + Neutralization

[1]Pretreatment Unit Operations Apply to API Separator Effluent
[2]Combined with Oil Removal to insure oil concentration below 50 mg/L

REFERENCES

1. "The Cost of Clean Waters, Volume III, Industrial Waste Profile No. 5, Petroleum Refining," U.S. Department of the Interior, FWPCA, (1967).

2. Nemerow, N.L., "Theories and Practices of Industrial Waste Treatment," Addison-Wesley Publishing Company, Inc., Reading, Mass. (1963).

3. Beychok, M.R., Aqueous Wastes from Petroleum and Petrochemical Plants", John Wiley and Sons, New York, (1967).

4. "Petroleum Refining Effluent Guidelines", Environmental Protection Agency, Washington, D.C. (Unpublished)

MEAT PRODUCTS INDUSTRY

1. Industry Description

This industry includes Standard Industrial Classification (SIC) Nos. 2011, 2013, 2014, and 2094.

These classifications include slaughterhouses, packing-houses, processing plants (beef, poultry, hog, and sheep), and rendering plants.

Live animals are usually held in holding pens for less than one day prior to slaughter. In the killing area, the animals are slaughtered and the carcasses drained of blood. The processes of skinning, defeathering or dehairing, and eviscerating follow the slaughtering of the animals. Depending on the desired product, carcasses may be cut into smaller pieces, e.g. hogs are cut into parts such as hams, sides, loins, and shoulders. These parts may be further processed (e.g. smoked or pickled), or they may be shipped directly to wholesalers without further processing.

Because of the similarity of the wastewaters from meat products industry, there are no separate pretreatment sub-groups for this industry.

2. Industrial Practices

The following industrial practices can significantly influence the wastewater characteristics:

Sanitation Requirements

Unlike most other industries, the food industry is required to maintain strict sanitary conditions, which limits the amount of process wastewaters that can be recycled. The industry practices in-plant recovery (e.g. blood or grease) to reduce wastewater strength. In most plants, blood is collected and subsequently processed. The recovery of blood represents an in-plant practice which is extremely desirable since whole blood represents a BOD concentration of over 150,000 mg/L (1).

In addition, the dry handling of such wastes as manure and bedding materials from holding pens, paunch manure from eviscerating, and meat cuttings and trimmings will significantly reduce the quantity of waste materials discharged to the sewers. Implementation of these practices will affect the concentration and quantity of waste constituents, but not the quantity of wastewater.

Rendering

Rendering is a major unit process where in-plant modifications can significantly influence the pretreatment considerations. Wet and dry rendering are two subprocesses presently used within the industry. In the wet process, the meat by-products in a batch tank are cooked by direct injection of steam. Dry rendering uses only heat, and little wastewater is produced. In wet rendering, the solids in the water phase are screened out, and the remaining tank water may be evaporated or sewered. The tank water is a major source of organic pollution, when sewered, and has a BOD value of approximately 45,000 mg/L (2). Evaporation of wet-rendering tank water and the installation of entrainment separators on barometric condensers may reduce the need for pretreatment of wet-rendering process wastewaters.

Wastewater Segregation

Wastewater originating within a meat products plant will generally be made up of wastewater from the operations, sanitary wastes, and wastewaters from auxiliary sources (e.g. cooling water from ammonia condensers in the refrigeration systems). Many large plants providing their own complete or partial treatment have found it economical to segregate wastewaters into blood, clean water, manure-free water, and manure waters.

3. Wastewater Characteristics

The characteristics of wastewaters from the meat products industry are shown in Table D-9-1. The meat products industry is a year-round operation with daily operation on an intermittent basis. Plants usually shut down daily for an extensive clean-up period following the processing period. This practice results in the generation of intermittent wastewater flows.

Each plant may have a number of operations, depending on the products and degree of processing. However, the wastewaters generated from any meat products plant can be characterized as containing high concentrations of BOD, COD, TSS, TDS, and grease. Washdown of holding pens, mainly to remove manure and urine, will add to the BOD and suspended solids concentrations.

The processes of skinning, defeathering or dehairing, and eviscerating are sources of BOD, grease, and suspended solids. The disposal of paunch manure and the washing of carcasses during eviscerating are particular operations which generate substantial pollutants. The processing of hogs and fowl produce a floating solids problem caused by hair and feathers.

Dressing and processing operations are minor wastewater sources compared to the slaughterhouse operations. Wastewaters from these operations contain grease and solids originating from equipment washdown and product losses. Druing these operations, various trimmings, fat, and fleshings are produced

Considerations in the joint treatment of meat product wastewaters with domestic wastes are the high chlorine demand, the presence of surface-active agents, fecal coliform, intermittent flows, and the high septicity potential due to the high organic content of meat product wastewaters. In general, meat product wastewaters are amenable to either biological or chemical treatment.

4. Pretreatment

The pretreatment unit operations which may be necessary for various types of joint treatment processes are shown in Table D-9-2.

In addition to screening and free-floating grease removal, various in-plant control practices, such as blood recovery, and separate handling of paunch manure as solid waste would greatly reduce the waste constituents in process wastewaters (3).

When the ratio of meat product wastewater to domestic wastewater is over 50 percent, pretreatment should include equalization to reduce organic and hydraulic fluctuations. The equalization basin should be aerated to prevent septic conditions.

TABLE D-9-1

Wastewater Characteristics

Meat Products Industry

Characteristics	Meat Products
Industry Operation	Year-round
Flow	INTERMITTENT[1]
BOD	HIGH-EXT. HIGH
TSS	HIGH
TDS	HIGH
COD	HIGH - EXT. HIGH
Grit	Absent
Cyanide	Absent
Chlorine Demand	HIGH
pH	Neutral
Color	HIGH
Turbidity	High
Explosives	Absent
Dissolved Gases	Absent
Detergents	Present
Foaming	Absent
Heavy Metals	Absent
Colloidal Solids	HIGH
Volatile Organics	Absent
Pesticides	Absent
Phosphorus	Present
Nitrogen	Present
Temperature	Normal-High[2]
Phenol	PRESENT[3]
Sulfides	Absent
Oil and Grease	PRESENT
Coliform (Fecal)	PRESENT

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[1] Wastewater flow is intermittent over the day or week.

[2] Temperature equal to higher than domestic wastewater; may affect design but not harmful to joint treatment processes.

[3] Phenols may be present in sanitizers used for clean-up.

NOTES: Characteristics which may require pretreatment or are significant to joint treatment plant design in UPPER CASE.

Wastewater characteristics shown reflect all industry practices described in Section 2.

TABLE D-9-2

Pretreatment Unit Operations for the
Meat Products Industry

Suspended Biological System	Fixed Biological System	Independent Physical-Chemical System
Coarse Solids Separation + Grease Removal[2]	Coarse Solids Separation + Grease Removal[2]	Coarse Solids Separation + Grease Removal[2]

S-6-0

[1]Assumes in-plant recovery and separate handling of blood, manure, and paunch manure.

[2]Only free-floating oil and grease.

REFERENCES

1. "The Cost of Clean Water, Volume III, Industrial Profile No. 8 - Meat Products", Federal Water Pollution Control Administration, Washington, D.C., (September 1967).

2. "Industrial Waste Study of the Meat Products Industry", Contract No. 68-01-0031, Environmental Protection Agency, Washington, D.C., (unpublished).

3. "Industrial Wastewater Control", (Edited by) Gurnham, C.F., Academic Press, New York (1965).

1. Industry Description

This industry includes Standard Industrial Classification (SIC) 2041, 2044, and 2046. These classifications include milling flour or meal from grains, by either dry or wet processes.

The major grain milling establishments process corn, wheat or rice. Dry corn milling involves grinding and processing corn for the production of corn meal, flour, grits, and related products. Wet corn milling involves the separation of corn into several components such as starch, syrup, animal feeds, and various other products. Wheat milling generally uses a dry cleaning process. Par-boiling of rice is a wet process for boiling rough rice to force nutrients in the bran into the grain. The par-boiled rice is then milled to remove the inedible hull and the bran.

Because of the similarity of the wastewaters from the various segments of the grain milling industry, there are no separate pretreatment sub-groups for this industry.

2. Industrial Practices

The following industrial practices can significantly influence pretreatment.

Dry Corn Milling

The smaller plants use dry cleaning processes and produce only ground whole corn meal. The large plants, however, wash the corn prior to tempering and milling, to produce a variety of products. Water used to wash the corn is separated in centrifuges. The spent wash water, which constitutes the major wastewater source in a dry grain milling operation, is generally screened before being discharged to the sewers, and the screenings are recovered to prepare animal feeds. If corn oil is also produced (only in larger mills), steam and cooling water will be required to separate the oil from the solvent by evaporation. As a result, auxiliary wastewaters from water treatment, boiler blowdown, and cooling water will be discharged from mills producing corn oil.

Wet Corn Milling

The dry cleaned corn is steeped first in circulating water containing SO_2 for 30 to 40 hours. The light steep water is removed and concentrated by evaporation for use in preparing animal feeds. The evaporator condensates and starch filtrates

constitute major wastewater sources from this industry. Small quantities of wastewater are added to the above source from equipment cleaning and washing operations. The starch slurry remaining after the separation of hulls, fiber, and germs is either used as starch or converted to syrup. The conversion of starch to acids. Even though the conversion of starch slurry to syrup and sugars (dextrose, lactic acid, etc.) generates large quantities of wastewater, these are generally reused for steeping corn and therefore cause only small quantities of wastewater to be discharged.

Wheat Milling

The dry process for milling and cleaning wheat produces no significant quantities of process wastewater. Only 5 percent of the wheat mills in the United States use water for cleaning wheat, and these wastes are discharged to municipal sewers. The manufacture of bulgur may produce a wastewater stream if the water is drained from bulgur wheat. However, most mills vent the moisture to the atmosphere during the drying and therefore do not produce any liquid wastes. In general, most grain mills processing wheat do not generate any liquid wastes,and those that employ wet cleaning of wheat discharge the wastewaters to municipal collection systems. Only five mills (estimated) in the United States make wheat starch from wheat flour. The wastewater from wheat starch production is similar to those from corn starch preparation (1).

Rice Milling

Rice milling generates wastewater only from the par-boiling operation. The spent cooling water is the principal wastewater generated from rice milling operations. Auxiliary wastewaters in rice milling industry result from water softening and boiler blowdown operations. The process wastewater (spent cooking liquor) is usually discharged to a municipal collection system.

3. Wastewater Characteristics

The characteristics of the wastewaters from the grain milling industry are shown in Table D-10-1. Most grain mills generate wastewater with similar pollutants and treatability characteristics.

Grain mills discharge wastewater varying in concentration and flow. Most mills operate 5 to 7 days per week, and 24 hours/day, and the operations are continuous batch-type. As a result, the wastewater quantity and characteristics are subject to hourly and daily variations. In addition, the starch-syrup plants may

use different grains and product mixes at various times, thus contributing to the variations in wastewater volume and loading. the wastewater is generally rich in carbohydrates. However, nutrient addition may be required for specific cases.

The grain milling industry generates wastewater from wet cleaning, oil extraction, and starch and syrup manufacturing operations. Depending on the product mix and the type of grain used (corn, wheat, or rice), the wastewater characteristics vary widely within the industry. In general, the wastewaters constituents include: COD, BOD, suspended solids, heat, and acidity. The BOD and COD of the wastewater are attributed primarily to the presence of starch, carbohydrates, and proteins (1,2).

4. Pretreatment

The pretreatment unit operations which may be necessary for various types of joint treatment facilities are shown in Table D-10-2. The level of pretreatment required will depend on the ability of the joint treatment facility to absorb shocks of varying wastewater volume and loading (3). Wastewaters resulting from starch production are slightly acidic (pH 4 to 5) and therefore may require neutralization prior to discharging to municipal systems (4).

TABLE D-10-1

Wastewater Characteristics
Grain Mill Industry

Characteristic	
Industry Operation	Year-Round
Flow	CONTINUOUS
BOD	HIGH- EXT. HIGH
TSS	Low-EXT. HIGH
TDS	High
COD	HIGH- EXT. HIGH
Grit	Present
Cyanide	Absent
Chlorine Demand	High
pH	ACIDIC-ALKALINE
Color	Absent
Turbidity	Present
Explosives	Absent
Dissolved Gases	Absent
Detergents	Absent
Foaming	Absent
Heavy Metals	Absent
Colloidal Solids	Present
Volatile Organics	Low
Pesticides	Absent
Phosphorus	Low-Adequate
Nitrogen	Low-Adequate
Temperature	High
Phenol	Absent
Sulfides	Absent
Oil and Grease	Absent
Coliform (Total)	Present

1 Higher temperature than domestic wastewaters. May effect design but not harmful to joint treatment processes.

NOTES: Characteristics which may require pretreatment or are significant to joint treatment plant design are shown in UPPER CASE.

Wastewater characteristics shown reflect all industrial practices described in Section 2.

Table D-10-2

Pretreatment Unit Operations for the Grain Mill Industry

Suspended Biological System	Fixed Biological System	Independent Physical/Chemical System
Coarse Solids Separation + Equalization + Neutralization	Coarse Solids Separation + Equalization + Neutralization	Coarse Solids Separation + Equalization + Neutralization

REFERENCES

1. "Industrial Waste Study Report - Grain Milling Industry", Environmental Protection Agency, Washington, D.C., (unpublished).

2. Ling, J.T., "Pilot Investigation of Starch - Gluten Waste Treatment", Proceedings 16th Industrial Waste Conference, Conference, Purdue University, 515-525 (1967).

3. Willenbrink, A.V., "Waste Control and Treatment by a Corn and Soybean Processor", Proceedings 22nd Industrial Waste Conference, Purdue University, 515-525 (1967).

4. Jeyfriend, C.F., "Purification of Starch Industry Wastewater", Proceedings 23rd Industrial Waste Conference, Purdue University, 1103-1119 (1968).

FRUIT VEGETABLE INDUSTRY

1. Industry Description

This industry includes Standard Industrial Classifications (SIC) 2033, 2034, 2035, and 2037. These industrial classifications include the processing of fruits and vegetables, including cleaning, sorting, sizing, peeling, stabilizing, and final processing.

Because of the similarity of the pollutants significant to pretreatment of wastewaters from the various segments of the fruit and vegetable industry, there are no separate pretreatment sub-groups for this industry.

Washing is a unit process integral to all fruit and vegetable processing. Wash water is used to remove dirt, insects, and residual pesticides. Root crops, such as potatoes and carrots, have greater amounts of dirt than fruits and vegetables grown above ground.

Sorting is performed (usually manually) to remove inferior fruits and vegetables, which are then directed into end products which are not sensitive to appearance. Conveyance between unit processes is often done in flumes to prevent damage to the product and to minimize the deteriorating effect that air has on many products, e.g., apples turn brown in the presence of air.

Separation of fruits and vegetables into desired size ranges is generally performed by using mechanical equipment.

Peeling, when required, is accomplished by either mechanical abrasion, by chemical (lye) treatment, or by steam. An experimental method of dry caustic peeling has been evaluated successfully for pears, peaches, potatoes and beets (1). Mechanical abrasion utilizes contoured knife peelers adjusted to maximize product yield for the particular size of product being processed. Steam and hot lye peeling depend on water sprays to remove the softened skin. Hot lye solutions may be sewered as frequently as after each work shift (2).

The peeling process represents a substantial source of pollutants, principally soluble, including: sugars, starches, and carbohydrates leached from the fruits and vegetables; and insoluble waste solids. The form of the final product is also a factor in the relative quantity of pollutants generated. For example, fruits are generally marketed in a whole, halved, quartered, or diced form. The greater the exposed area (diced vs. halved), the greater the extent of leaching of pollutants from the product.

Stabilizing of the fruit or vegetable to preserve its quality may be accomplished by blanching or pasteurization. Blanching is accomplished with steam, to expel air and inactivate enzymes which would cause color change and wilting. Generally, only juices and some commodities are pasteurized to prevent deterioration.

Fruit and vegetable processing can also include canning, frying, freezing, or dehydration. Canning can also involve cooking, which is done in a pressurized steam cooker; thereafter, the cans are cooled with water before being labeled and packed in cartons.

2. Industrial Practices

The following industrial practices can significantly infl influence pretreatment:

Trimming and Peeling Wastes

Trimmings and other large solids should be handled as a dry solid waste and not sewered. This practice would affect the pretreatment screening requirements.

Wash Water Recycle

A closed wash water recycle system with separate grit disposal will generally preempt grit removal as a pretreatment requirement.

Peeling Process

The substitution of another peeling process for lye treatment may nullify the need for neutralization facilities for pH adjustment.

Washing Operation

Reduction of wastewater quantities is critical in order to obtain a minimal capital investment for pretreatment facilities. Counter-current flow during the washing operation has been credited with substantially reducing the overall volume of wash water. In addition, low-volume, high-pressure sprays have been successfully employed in various establishments.

3. Wastewater Characteristics

The characteristics of the wastewaters from the processing fruits and vegetables are shown in Table D-II-1. The

Fruit and vegetable industry is a seasonal operation, usually corresponding to the local growing season. Within this industry one particular cannery may process more than one fruit or vegetable, e.g. corn in summer and apples in the fall. In addition, apples and potatoes are stored under controlled temperature and humidity, with the overall effect of prolonging the industry operation. This industrial category can be classified as a continuous operation, with the exception of fruits and vegetables that are pickled or cooded. These latter processes are batch types. In general, the wastewaters from this industry are high in BOD, COD, TSS, and grit (3,4).

4. Pretreatment

The pretreatment unit operations which may be necessary for various types of joint treatment processes are shown in Table D-II-2. Water re-use and process equipment within each plant will dictate the pretreatment and subsequent treatability. In general, fruit and vegetable wastewaters are amenable to either biological or chemical treatment (5).

Design consideration in the joint treatment of vegetable and fruit wastewater with domestic wastes should include the high chlorine demand, presence of surface-active agents, nutrient deficiency, and pH variability. Pesticides may have ever been sprayed with a long-life pesticide. There is no substantial information at present on the measurable quantities of pesticides in the wastewaters.

TABLE D-11-1

Wastewater Characteristics
Fruit and Vegetable Industry

Characteristics	
Industrial Operation	SEASONAL
Flow	INTERMITTENT
BOD	Average-EXT. HIGH
TSS	Average-EXT. HIGH
TDS	Average-HIGH
COD	Average-EXT. HIGH
Grit	PRESENT
Cyanide	Absent
Chlorine Demand	Average-HIGH
pH	ACID-ALKALINE[1]
Color	Present (HIGH[2])
Turbidity	High
Explosives	Absent
Dissolved Gases	Absent[3]
Detergents	PRESENT
Foaming	Absent
Heavy Metals	Absent
Colloidal Solids	Average
Volatile Organics	Absent
Pesticides	Absent-Present
Phosphorus	DEFICIENT
Nitrogen	DEFICIENT
Temperature	Normal-High[4]
Phenol	Absent
Sulfides	Absent
Oil & Grease	Absent
Fecal Coliform	Absent

1. Fruit and tomato wastes are generally acidic; however, the pH of the wastewater is affected by the peeling process, e.g., lye peeling.
2. Beet processing wastewaters are characterized by a red color.
3. Free SO_2 may be dissolved in maraschino cherry brine.
4. Temperature equal to or higher than domestic wastewater. May affect design but not harmful to joint treatment processes.

NOTES: Characteristics which may require pretreatment or are significant to joint treatment plant design are shown in UPPER CASE.

Wastewater characteristics shown reflect all the industrial practices described in Section 2.

TABLE D-11-2

Pretreatment Unit Operations for the Fruit and Vegetable Industry

Suspended Biological System	Fixed Biological System	Independent Physical Chemical System
Coarse Solids Separation + Grit Removal + Neutralization[1]	Coarse Solids Separation + Grit Removal + Neutralization[1]	Coarse Solids Separation + Grit Removal + Neutralization[1]

1. Neutralization is dependent on commodity and peeling process employed.

REFERENCES

1. Industrial Waste Study - Canned and Frozen Fruits and Vegetables, Contract No. 68-01-0021, Environmental Protection Agency, Washington, D.C. (unpublished).

2. "Industrial Wastewater Control", (Edited by) Gurnham, C.F., Academic Press, New York (1965).

3. "Utilization of Cannery Fruit Waste by Continuous Fermentation", Bulletin No. 207, Washington State Institute of Technology, Pullman, Washington (March 1950).

4. "Treatment of Citrus Processing Wastes", Water Pollution Control Research Series 12060, Environmental Protection Agency, Washington, D.C. (1970).

5. "The Cost of Clean Water, Volume III, Industrial Waste Profile No. 6 - Canned and Frozen Fruits and Vegetables", Federal Water Pollution Control Administration (June 1967).

BEVERAGES INDUSTRY

I. Industry Description

This industry includes Standard Industrial Classification (SIC) 2082, 2083, 2084, 2085, 2086, and 2087.

These industrial classifications include all establishments engaged primarily in the manufacture of malt, malt beverages (ale, beer, and malt liquors), wines (table wine, dessert wine, and brandy), distilled spirits, bottled and canned soft drinks, and flavoring extracts and syrups.

The products described above can be classified under two major groups according to their basic manufacturing processes as:

1. Fermentation Products (beer, wine, distilled spirits, malt)
2. Extraction Products (soft drinks, flavors, and extracts)

The fermentation products are made from grains or fruits, while the extraction products are made from flavor substitutes of oils such as cocoa, vanilla, and orange oil. The fermentation products derived from grains are manufactured by cooking the grains, fermenting the cooking liquor with a yeast culture, and separating the fermented alcohol by clarification and filtration.

The manufacturing processes used for the production of flavoring extracts and syrups are proprietary in nature. The basic processes for the recovery of natural flavoring can be listed as follows:

1. Steam distillation and petroleum ether extraction (essential oils).
2. Expression (hydraulic pressing) and petroleum ether extraction (fruit syrup).
3. Expression and evaporation (jams).
4. Alcoholic extraction of vanilla and other tissue.

The soft drink bottling and canning plants use flavor extracts and purchased syrups. The bottling and canning process involves bottle washing and sterilizing, mixing of flavor extracts and syrup, carbonation, and filling.

The pretreatment sub-groups for this industry are as follows:

Malt, malt beverage, and distilled spirits (except industrial alcohol).

Wine and brandy.

Bottled and canned soft drinks, and flavors and syrups.

2. Industrial Practices

During the brewing and fermentation process, malt and hops are added to convert starch to sugar and to incorporate a bitter taste to the product. Water is used in the process for cooking, cooling, container washing and other miscellaneous uses. Both solid wastes and liquid wastes are generated in the process. Spent grains, excess yeast, and spent hops are the solid wastes, and are generally hauled away or dried for livestock and poultry feed. The only variation of this type of disposal is where certain small distilleries manufacturing distilled wine or spirits, the stillage is discharged with other liquid wastes. Liquid process wastes result from fermentation, aging, filtration and evaporation, and washing and clean-up operations (1,2). Liquid wastes are also discharged from auxiliary operations such as cooling, boiler blowdown, and water softening.

The fermentation process results in the generation of "lees", which is a mixture of wine, yeast cells, and other sediment. The lees is considered a liquid or semi-liquid waste, which is either discharged directly to the sewer or recovered in the case of large wineries. In order to improve the quality of the wine, the fermented liquid is often processed by a sequence of racking, filtration, and fining operations. The wastes from racking (clarification) and filtration often produce a sludge containing significant quantities of wine. When these wastes are sewered, they add significantly to the BOD and solids concentration of the wastewater. Brandy is produced by distillation of wine and condensation of the overhead in order to obtain a beverage with high alcohol content. The stillage from such distillation is a very significant liquid waste (3,4).

The manufacture of flavoring extracts and syrups also generates both liquid and solid wastes. Solid wastes are the residues after extraction of flavors and syrups. Wastewaters from normal extraction operations are:

Fruit Expression:

1. Water used for washing fruits.
2. Hydraulic press clean-up.

Evaporation:

1. Evaporator condensate.
2. Kettle wash water.

Steam Distillation:

1. Boiler blowdown.
2. Bottoms from packed column.

The major wastewater sources in the bottling industry are the bottle washing and clean-up operations. Auxiliary wastewaters such as cooling, air conditioning, and boiler blowdown are also generated (5).

The predominant method of disposing of liquid wastes from beverage plants is by discharging to municipal sewerage systems. A typical plant collects all its wastewaters in a common sewer and discharges them to municipal sewers.

3. Wastewater Characteristics

The characteristics of process wastewaters from each pretreatment sub-group are shown in Table D-12-1.

The beverage industries generally operate throughout the year. However, the volume of waste production and the loading will vary with the season depending upon product demand. A recent survey of the malt beverage industry indicates that wastewater volume and load both peak during the summer months, and are lowest during the winter months. This is probably due to the scheduling of production in response to demand and usage.

Major considerations in the joint treatment of beverage wastewaters are the presence of large particulate matter in suspension and the fluctuations in hydraulic and organic loads. The follwing is a brief description of the wastewater from each pretreatment group:

1. Malt Deverages and Distilled Spirits

The wastewaters generated from the malt and malt beverages industries have as major constituents BOD, SS, pH and temperature. The waste solids from the malt house, and the excess yeast, spent grains, and spent hops from the malt beverages industry are disposed of either by hauling away or by on-site drying to make cattle feeds. If the spent wet grain is dried in the brewery, the spent grain liquid must be disposed of; generally, it is discharged to municipal sewers without pretreatment.

The distilleries produce wastewaters from cooking and fermentation of grains, the stillage or slops from distilling operations, and from washing and bottling operations. The stillage from the distilleries contain yeast, proteins, and vitamins. Depending upon the size of the plant, complete or partial recovery of stillage is practiced. The major constituents in distillery wastewaters include BOD, suspended solids, acidity, and heat.

2. Wine and Brandy

The wine and brandy industries produce wastewaters from crusher-stemmer, pressing, fermentation, clarification and filtration, distillation, and bottling operations. Brandy is manufactured by distillation of wine and, therefore, results in the generation of stillage or "still slop". The stillage is a very significant liquid waste in the manufacture of brandy. The wastewaters are high in organics and have the potential of introducing shock loads in joint treatment works (3).

3. Soft Drinks, Flavors, and Syrups

The wastewaters generated from the manufacture of flavor extracts and syrups are generally discharged to municipal sewerage systems without treatment. Very little work, if any, has been done to delineate the characteristics of the wastewater from this segment of the industry. The bottling and canning of soft drinks generate wastewaters primarily from bottle-washing operations. These wastes contain BOD, suspended solids, and alkalinity. Some bottling industries practice recirculation of final rinse water for pre-rinsing, thereby reducing the volume of wastewater discharged to the sewers (5).

4. Pretreatment

Available information in the literature indicates that pretreatment in the form of screening, grit removal, and equalization are practiced by some industries.

The pretreatment unit operations shown in Table D-12-2 are based upon total process wastewater discharge from all unit operations within the industry. The addition of auxiliary wastes (cooling, boiler blowdown, and water softening) will lower the strength of total effluent from the industry. In general, the wastewaters from the beverage industries are amenable to treatment by conventional

processes, such as activated sludge and trickling filters. The pretreatment unit operations recommended in Table D-12-2 are based on the assumption that the following in-plant pollution control methods are practiced:

1. Hauling or drying of spent grains, hops, and stillage.

2. Separate solids-handling and disposal of crusher-stemmer and pressing wastes.

Spent grains, hops, stillage, crusher-stemmer, and pressing wastes can be characterized as solid wastes rather than liquid wastes. Therefore, it is desirable to collect them separately for disposal.

Wastes from the malt industry have been successfully treated even when they constitute 45 percent of the total flow and 76 percent of the total BOD loadings in joint treatment works (2). Similar results have been reported for the joint treatment of malt beverage wastewaters when they form 4.2 percent of the total flow and 25 percent of the total organic loading (2). These results suggest that in a well designed and well operated joint treatment works, the beverages industrial wastes are similar to domestic wastes, and that the ratio of industrial wastes to domestic wastes does not significantly influence the treatability characteristics of the combined waste. However, it may be necessary to provide supplemental nutrients (nitrogen and phosphorus) in joint treatment facilities.

TABLE D-12-1

Wastewater Characteristics

Beverages Industry

Characteristics	Malt Beverages and Distilled Spirits	Wine and Brandy	Soft Drinks Bottling[1]
Industry Operation	Year-round	SEASONAL	Year-round
Flow	INTERMITTENT-Continuous[2]	INTERMITTENT	INTERMITTENT
BOD	HIGH	HIGH-EXT. HIGH	Average to HIGH
TSS	Low to HIGH	Low to EXT. HIGH	Low to HIGH
TDS	High	High	Low to High
COD	HIGH	HIGH-EXT. HIGH	Average to HIGH
Grit	PRESENT	PRESENT	PRESENT
Cyanide	Absent	Absent	Absent
Chlorine Demand	No Data	No Data	No Data
pH	ACID-NEUTRAL	ACID-ALKALINE[3]	ALKALINE[3]
Color	Present	Present	Present
Turbidity	Present	Present	Present
Explosives	Absent	Absent	Absent
Dissolved Gases	Present	Absent	Present
Detergents	Present[4]	Present[4]	Present[4]
Foaming	Present	Present	Present
Heavy Metals	Absent	Absent	Absent
Colloidal Solids	Present	Present	Present
Volatile Organics	Present	Present	Present
Pesticides	Absent	Absent	Absent
Phosphorus	DEFICIENT	DEFICIENT	DEFICIENT
Nitrogen	DEFICIENT	DEFICIENT	DEFICIENT
Temperature	Normal-High[5]	High[5]	Normal
Phenol	Absent	Absent	Absent
Sulfides	Absent	Absent	Absent
Oil and Grease	Absent	Absent	Absent
Coliform (Fecal)	Absent	Absent	Absent
Coliform (Total)	Present	Present	Present

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[1] Pollutants characteristics represent only Bottling industry; no data available for flavors and syrups.

[2] Malt beverages generate wastes on a continuous basis; distilled spirits waste flow will be cyclic.

[3] Alkaline pH due to caustic detergents used for bottle washing.

[4] Surface active agents are discharged primarily from bottle washing.

[5] Temperature equal to or higher than domestic wastewater; may affect design but not harmful to joint treatment processes.

NOTE: Characteristics which may require pretreatment or are significant to joint treatment plant design are shown in UPPER CASE.

Wastewater characteristics shown reflect the industrial practices described in Section 2.

TABLE D-12-2

Pretreatment Unit Operations for the Bevaerages Industry

Pretreatment Sub-Group	Suspended Biological System	Fixed Biological System	Independent Physical-Chemical System
Malt Beverages	Coarse Solids Separation + Grit Removal + Equal-ization + Neutralization	Coarse Solids Separation + Grit Removal + Equal-ization + Neutralization	Coarse Solids Separation + Grit Removal + Equal-ization + Neutralization
Wine and Brandy	Coarse Solids Separation + Grit Removal + Equal-ization + Neutralization	Coarse Solids Separation + Grit Removal + Equal-ization + Neutralization	Coarse Solids Separation + Grit Removal+ Equal-ization + Neutralization
Soft Drinks Bottling	Grit Removal + Neutralization	Grit Removal + Neutralization	Grit Removal + Neutralization

REFERENCES

1. "Industrial Waste Survey on Malt Liquor Industry", prepared for the Environmental Protection Agency by Aware, Inc., Nashville, Tennessee (unpublished).

2. "Industrial Waste Survey of the Malt Industry," prepared for the Environmental Protection Agency by Aware, Inc., Nashville, Tennessee (unpublished).

3. "Industrial Waste Survey of the Wine Industry," prepared for the Environmental Protection Agency by Aware, Inc., Nashville, Tennessee (unpublished).

4. "Industrial Waste Survey of Distilled Spirits Industry," prepared for the Environmental Protection Agency by Aware, Inc., Nashville, Tennessee (unpublished).

5. "A Report on Bottled and Canned Soft Drinks SIC 2086 and Flavoring Extracts and Syrups SIC 2087," prepared for the Environmental Protection Agency by Aware, Inc., Nashville, Tennessee (unpublished).

PLASTIC AND SYNTHETIC MATERIALS INDUSTRY

Industry Description

This industry includes Standard Industrial Classifications (SIC) No. 2821, 2823, and 2824. These classifications include the manufacture of plastic and synthetic materials, but not the manufacture of monomers, formed plastic products (other than fibers), and paint formulations. The manufacture of resins used in paints is also included.

Plastics and resins are chain-like structures known chemically as polymers. All polymers are synthesized by one or more of the following processes: bulk, solution, emulsion, and suspension. After polymerization, the products undergo separation, recovery, and finishing before being marketed.

There are numerous plastics and synthetics manufactured in this industry. For these guidelines, a national production volume of greater than 50 million pounds per year was selected as the criterion for inclusion of a polymer.

Based on the wastewater characteristics and treatability information, the industry is divided into the following pretreatment sub-groups:

Pretreatment Sub-Group	
1	Rayon Fibers Nylon Fibers
2	High- and Low-Density Polyethylene Resins
3	Urethane Resins Polyolefin Fibers Polyvinyl Acetate Resins Polyvinyl Alcohol Resins Polyester Fibers
4	Cellulosic Resins Cellophane Polypropylene Resins Cellulose Acetate Fibers Polyvinyl Chloride Resins Polystyrene ABS, SAN Resins Phenolic Resins Nylon Resins Polyacetal Resins Acrylic Fibers

2. Industrial Practices

The following industrial practices can significantly influence the wastewater characteristics.

Suspension Polymerization

In suspension polymerization, a monomer (e.g. vinyl acetate) is dispersed in a suspending medium consiting of a mixture of water and suspending agents such as polyvinyl alcohol, gelatin, etc. The suspension is heated, and polymerization occurs. The polymer is then separated in a centrifuge, washed, and dried in rotary driers. The centrate from the separation process may contain suspending agents, surface-active agents, catalysts, (e.g. benzoyl, lauroyl) and small amounts of unreacted monomer (1).

Emulsion Polymerization

Emulsion polymerization consists of solubilization and dispersion of the monomer in a solvent (e.g., water, cyclohexane, or tetrahydrofuran) with the appropriate emulsifiers (e.g., soaps or surfactants). Before polymerization occurs, initiators such as persulfates, hydrogen peroxides, etc. are added. When polymerization is complete, the product is a milk-like latex of permanently dispersed polymer, from which the polymer particles are recovered, generally by spray drying or by coagulation and centrifugation.

Solution Polymerization

Solution polymerization relies on a solvent to dissolve the monomer and catalyst. After reaction, the polymer is precipitated using an antisolvent (e.g. n-hexane, methanol). The polymer is then filtered and dried.

Bulk or Mass Polymerization

Bulk or mass polymerization is different from the foregoing processes in that no carrier liquid is used. Therefore, there is generally little or no process wastewater associated with this process.

3. Wastewater Characteristics

The characteristics of the process wastewaters from the manufacture of plastic and synthetic materials are shown in Table D-13-1.

The plastic and synthetic materials industry is typically a continuous year-round operation. Because it is technically and economically advantageous, many firms manufacture several different, but related chemical products at one location. For example, a typical complex makes ethylene, polyethylene, sulfuric acid, ethyl chloride, ammonia, nitric-acid and phosphoric acid (2).

In group 1, the wastewater has relatively high BOD, COD, and TSS; heavy metals (Zn, Cu) and synthetic fiber losses. Group 2 wastewater has low BOD and COD, may be either acidic or alkaline, and has substantial amounts of oil and polymer particles. Group 3 is characterized as either having no process water or as having process wastewater containing virtually no pollutants. Group 4 wastewater has variable BOD and COD, may be either acidic or alkaline, and contains synthetic fibers. Discharge of faulty batches from synthetic fiber plants may introduce shock loads into the joint treatment facility.

Conditions significant in the design of joint treatment facilities include high chlorine demand, the presence of surface-active agents, high solids concentrations, and nutrient deficiency. The process diversity and complexity, as well as the proprietary nature of many of the process chemicals, require that the pretreatment be established on a case-by-case basis after thorough investigation.

4. Pretreatment

The pretreatment unit operations which may be necessary for various types of joint treatment processes are shown in Table D-13-2.

TABLE D-13-1
Wastewater Characteristics
Plastic and Synthetics Industry

Characteristics	Sub-Group 1	Sub-Group 2	Sub-Group 3	Sub-Group 3
Industry Operation	Year-Round	Year-Round	--3	Year-Round
Flow	Continuous-Variable	Continous		Continuous
BOD	HIGH	Low	Low	Average-HIGH
TSS	HIGH	Low	Low	Low-HIGH
TDS	HIGH	Low	Low	Low-HIGH
COD	HIGH	Low	Low	Average-HIGH
Grit	Absent	Absent	Absent	Absent
Cyanide	Absent	Absent	Absent	Absent
Chlorine Demand	HIGH	Low	Low	AVERAGE-HIGH
pH	ACID-BASIC	ACID-BASIC	Neutral	ACID-BASIC
Color	Low-Average	Low-Average	Low	Low-Average
Turbidity	High	Low	Low	Low-High
Explosives	Absent	Absent	Absent	Absent
Dissolved Gases	Absent	Absent	Absent	Absent
Detergents	Absent	Absent	Absent	PRESENT
Foaming	Absent	Absent	Absent	Absent
Heavy Metals	PRESENT	Absent	Absent	Absent
Colloidal Solids	HIGH	Low	Low	Average
Volatile Organics	Absent	Present	Absent	Present
Pesticides	Absent	Absent	Absent	Absent
Phosphorus	DEFICIENT	DEFICIENT	DEFICIENT	DEFICIENT
Nitrogen	DEFICIENT	DEFICIENT	DEFICIENT	DEFICIENT
Temperature	Normal-High	Normal-High	Normal-High	Normal-High
Phenol	Absent	Absent	Absent	Present
Sulfides	Absent	Absent	Absent	Absent
Oil and Grease	Absent	PRESENT	Absent	Absent
Coliform (Fecal)	Absent	Absent	Absent	Absent

[1] Products generally associated with little or no process wastewater
[2] Temperature equal to or higher than domestic wastewater. May affect the design but not harmful to joint treatment processes.
[3] See text page D-13-3

NOTE: Characteristics which may require pretreatment or are significant to joint treatment plant design are shown in UPPER CASE.
Wastewater characteristics shown reflect the industrial practices described in Section 2.

TABLE D-13-2

Pretreatment Unit Operations for the Plastic and Synthetic Materials Industry

Pretreatment Sub-Group	Suspended Biological System	Fixed Biological System	Independent Physical-Chemical System
1	Coarse Solids Separation + Neutralization + Chemical Precipitation (heavy metals)	Coarse Solids Separation + Neutralization + Chemical Precipitation (heavy metals)	Coarse Solids Separation + Neutralization + Chemical Precipitation (heavy metals)
2	Oil Separation[1] + Neutralization	Oil Separation[1] + Neutralization	Oil Separation[1] + Neutralization
3	Pretreatment Not Required	Pretreatment Not Required	Pretreatment Not Required
4	Coarse Solids Separation + Neutralization	Coarse Solids Separation + Neutralization	Coarse Solids Separation + Neutralization

[1] Oil separation required to reduce mineral oil (petroleum sources) concentration below 50 mg/L.

NOTE: Publicly owned treatment works must be protected from batch dumpings of faulty product materials.

REFERENCES

1. "Industrial Waste Study of the Plastic Materials and Synthetics Industry", Environmental Protection Agency Contract No. 68-01-0030, Washington, D.C., (unpublished).

2. "The Cost of Clean Water - Vol. III, Industrial Waste Profile No. 10 - Plastic Materials and Resins," Federal Water Quality Administration (October, 1967).

BLAST FURNACES, STEEL WORKS, AND ROLLING AND FINISHING

I. Industry Description

This industry includes Standard Industrial Classification (SIC) 3312.

This classification includes: pig iron manufacture; manufacture of ferroalloys from iron ore and from iron and steel scrap; converting pig iron, scrap iron, and scrap steel into steel; hot rolling; and cold finishing. Blast furnaces and by-product (or beehive) coke ovens are also included under this category. The complex and interdependent operations involved in a steel industry can be listed as follows:

a. Coke Works
b. Iron Works
c. Steel Works
d. Hot Forming
e. Cold Finishing

Significant quantities of water are used, both for processing and for cooling purposes. The steel industry generates greater volumes of wastewater than any other industry (1).

a. Coke Works

Coke is used in large quantities for the production of pig iron. Therefore, most large iron and steel manufacturing operations include the production of coke from coal. There are two methods generally used for the production of coke: 1) the beehive process; and 2) the by-product or chemical recovery process. The beehive process uses air in the coking oven to oxidize the volatile organics released from coal and to recover the heat for further distillation. The by-product or chemical recovery process is operated in the absence of oxygen, and the heat required for distillation is provided from external fuel sources. Today, the by-product process accounts for 99.9 percent of all metallurgical coke. Therefore, only the by-product or the chemical recovery process is described in detail.

In the by-product process, coal is heated in the absence of air to a temperature at which the volatile matter is driven off. At the end of coking cycle, the hot residual coke (2,000° F) is conveyed to a quenching station, where it is cooled with a spray of water. The off-gases from the coke oven are cooled in a cooling train, where tar and ammonia liquor separate out. The tar contains a large proportion of phenols removed from the furnace. The ammonia is generally recovered from the liquor in a still.

b. Iron Works

Iron is manufactured from iron ore (iron oxide) in blast furnaces, with carbon monoxide (from coke) as a reducing agent. The major impurity (silica) in the iron ore is removed from the blast furnace as molten slag, through the use of limestone.

c. Steel Works

Steel is manufactured from pig iron by adjusting the carbon content of the alloy to approximately 1 percent. The three principal steel-making units are the electric arc furnace, the open-hearth furnace, and the basic oxygen furnace. The basic oxygen furnace produces approximately 50 percent of the total steel produced in the United States (2).

All three methods use the same raw materials and produce similar wastes. Pure oxygen or air is used to refine the hot iron into steel by oxidizing and removing silicon, phosphorus, manganese, and carbon from the iron.

d. Hot Forming

The steel ingot obtained from the furnace is reheated to provide uniform temperature for further processing or hot forming. The ingot steel is generally processed in a blooming mill or slab mill to form plates, sheets, strip, skelp, and bars.

e. Cold Finishing

The cold finishing operations are used for the conversion of hot-rolled products to give desired surface, shape, or mechanical properties. These operations include pickling, cold rolling, tinplating, coating, shaping, and drawing to make various finished products.

Integrated iron and steel mills may operate many different subprocesses generating wastewaters of varying characteristics. There are, however, mills which are not integrated and which have only a few of the foregoing manufacturing operations.

The only two types of waste stream susceptible to joint treatment are the coke oven wastewaters and the pickling liquor. The other process wastes occur in such large quantities and contain only suspended impurities that it is more logical to treat them on-site and discharge directly to surface waters.

Consequently, the pretreatment sub-groups for this industry are:

Coke Works
Cold Finishing

2. Industrial Practices

The strong acid pickle liquor, containing iron salts of mineral acids, is usually collected separately for other means of disposal or for use in waste treatment plants. The acid salts of iron are useful either as a flocculent aid, as a precipitating agent for phosphorus removal, or as a neutralizing agent in waste treatment plants. Any such use should be investigated before discharging the spent pickle liquor as a waste stream. Recovery of strong acid pickle liquor for reuse is practiced in a limited number of cases for hydrochloric acid systems.

3. Wastewater Characteristics

The characteristics of the process wastewaters from various operations within the steel industry are shown in Table D-14-1.

The wastewaters generated in steel industries vary widely between operations and they are generally segregated for treatment. Some older steel mills, however, still have common collection systems for discharging the total plant flow. The steel industry operates throughout the year and generates wastewaters over a 24-hour day. The volume and characteristics of wastewater are subject to hourly variations from batch dumping of acid baths and still bottoms.

The major constituents present in the wastewater are phenol, cyanides, ammonia, oil, suspended solids, heavy metals (Cr, Ni, Zn, Sn), dissolved solids (chlorides, sulfates), acidity, and heat. The process wastewaters are generally treated on-site before disposal. Joint treatment of these wastes with municipal wastes is limited to small installations, which handle only approximately 5 percent of the overall steel industry. This is probably due to the excessive volumes of wastewater (12,000-25,000 gpm) generated by large integrated steel mills (3). A significant

portion of the wastewater generated contains suspended solids and dissolved solids that are inorganic in nature. Most municipal treatment plants are not equipped to handle or treat this type of wastewater.

The only two waste streams generally susceptible to joint treatment are the coke oven wastewaters (ammonia liquor, still bottoms, and light oil recovery wastewaters) and the pickling liquor. The other process wastewaters are high in solids (sub-micron iron oxide dust) and heavy metals. Pretreatment to reduce these waste constituents generally results in an effluent which can be discharged directly to surface waters, for which further joint treatment is not cost effective.

The coke oven process wastewaters are amenable to biological treatment when they constitute only a minor fraction (approximately 25 percent) of the total wastewater flow to the joint treatment facility (2). The cyanide concentration (with its resulting aquatic toxicity characteristics) is the primary consideration in the joint treatment of coke oven process wastes.

The following are characteristics of the process wastewaters:

The still bottoms, containing phenol, constitute the major wastewater source from the coke oven process. Since the beehive oven process utilizes the heat value in the off-gases, only the quench water is discharged as wastewater (1). The gases (CO_2, CO, N, and HCN) leaving the furnace are hot and contain dust particles. The gases also contain water vapor and traces of hydrogen sulfide. In order to clean the exit gas from the blast furnace operations, the gas is generally passed through dust collectors, scrubbers, and coolers. The water used in the scrubbers and coolers is the primary wastewater source in iron manufacture. The waste products from this process are slag and the oxides of iron released as sub-micron dust particles. Precipitators or venturi scrubbers are used to clean the exit gas, and the characteristics of the wastewater discharged from the process will depend primarily on the gas cleaning system. If scrubbers are used, the wastewater generated will be acidic in nature due to the presence of sulfur oxides in the exit gas.

Water is used under high pressure to remove scale and for cooling purposes. The primary wastewaters are the

scale-bearing waters and cooling waters containing primarily scale and oil.

Steel pickling to remove oxides and scales is accomplished through solutions of H_2SO_4, HCl, or hydrofluoric acid. The pickled steel is then rinsed with water and coated with oil before proceeding to the next step.

The cold rolling process involves passing unheated metal through rolls for reducing size or thickness, and improving the surface finish.

Plating of steel products is done electrolytically, and is accomplished in either an alkaline or an acid electrolyte solution. If acid electrolyte is used, the process system will consist of alkaline washing, rinsing, pickling, plating, quenching, chemical treating, rinsing, drying, and oiling. The most commonly used metallic coatings are tin, zinc, nickel, chromium, cadmium, copper, aluminum, silver, gold, and lead. Wastewaters generated from cold finishing operations include: rolling solutions, cooling water, plating wastes, pickling rinse waters, and concentrated waste-acid baths. Rolling solutions and cooling water generally contain oil and suspended solids as pollutants. Plating wastes, pickling rinse, and concentrated acid baths may contain various heavy metals (Cr, Cd, Ni, Zn, Sn) as well as cyanides, acids, and alkali.

4. Pretreatment

The pretreatment unit operations which may be necessary for various types of joint treatment processes are shown in Table D-14-2. Even though the wastewaters from the coke oven and cold finishing operations are susceptible to joint treatment, the effluent limitation values for cyanide and heavy metals must be considered in the design of pretreatment facilities.

TABLE D-14-1

Wastewater Characteristics

Blast Furnaces, Steel Works, and Rolling and Finishing Industry

Characteristics	Coke Works	Iron Works	Steel Works	Hot Forming	Cold Finishing
Industrial Operation	Year-round	Year-round	Year-round	Year-round	Year-round
Flow	INTERMITTENT	Continuous	Continuous	Continuous	INTERMITTENT
BOD	Low-Average	Low-Average	Low	Low	Low-Average
TSS	Low	Low-High	Average-High	Low-High	Low-High
TDS	Low	Low	Low	Low	High
COD	Low-Average	Low-Average	Low	Low	Low-Average
Grit	Present	Present	Absent	Absent	Absent
Cyanide	PRESENT	Present	Absent	Absent	PRESENT
Chlorine Demand	High	Low	Low	Low	Low
pH	Neutral	Neutral	Neutral	Neutral	ACIDIC
Color	Absent	Absent	Absent	Absent	Absent
Turbidity	Present	Present	Present	Present	Present
Explosives	Absent	Absent	Absent	Absent	Absent
Dissolved Gases	Present	Present	Present	Absent	Absent
Detergents	Absent	Absent	Absent	Absent	Present
Foaming	Absent	Absent	Absent	Absent	Absent
Heavy Metals	Absent	Present	Present	Present	PRESENT
Colloidal Solids	Present	Absent	Absent	Absent	Present
Volatile Organics	Present	Absent	Absent	Present	Present
Pesticides	Absent	Absent	Absent	Absent	Absent

Characteristics	Coke Works	Iron Works	Steel Works	Hot Forming	Cold Finishing
Phosphorus	DEFICIENT	DEFICIENT	DEFICIENT	DEFICIENT	DEFICIENT
Nitrogen	Adequate	Adequate	DEFICIENT	DEFICIENT	DEFICIENT
Temperature	HIGH	High	High	High	High[1]
Phenol	PRESENT	Present	Absent	Absent	Present
Sulfides	PRESENT	Present	Absent	Absent	Absent
Oil and Grease	Present	Absent	Absent	Present	PRESENT
Coliform (Total)	Absent	Absent	Absent	Absent	Absent

[1] Temperature higher than domestic wastewater; may affect design but not harmful to joint treatment.

NOTES: Characteristics which may require pretreatment or are significant to joint treatment plant design are shown in UPPER CASE.

Wastewater characteristics shown do not reflect industrial practices described in Section 2.

TABLE D-14-2

Pretreatment Unit Operations for the
Blast Furnaces, Steel Works, and Rolling and Finishing Industry

Pretreatment Sub-Group	Suspended Biological System	Fixed Biological System	Independent Physical-Chemical System
Coke Production	Equalization + Solids Separation	Equalization + Solids Separation	Equalization + Solids Separation
Cold Finishing	Equalization + Oil Separation or Skimming + Chemical Precipitation (heavy metals) + Neutralization	Equalization + Oil Separation or Skimming + Chemical Precipitation (heavy metals) + Neutralization	Equalization + Oil Separation or Skimming + Neutralization

REFERENCES

1. Nemerow, N.L., "Theories and Practices of Industrial Waste Treatment", Addison-Wisley Publishing Co. Inc., Reading, Mass. (1963).

2. "Industry Profile Study on Blast Furnace and Basic Steel Products", Water Quality Office, Contract No. 68-01-0006, Environmental Protection Agency, Washington, D.C. (unpublished).

3. "The Cost of Clean Water, Vol. III, Industrial Waste Profile No. 1, Blast Furnaces and Steel Mills", U.S. Dept. of the Interior, FWPCA (1967).

ORGANIC CHEMICALS INDUSTRY

1. Industry Description

This industry includes Standard Industrial Classifications (SIC) 2811, 2813, 2814, 2815, and 2818.

These classifications include the manufacture of a wide variety of products ranging from industrial gases and fertilizers to dyes, pigments, and petroleum compounds.

The total annual production of organic chemicals in the United States has been estimated to be 120 billion pounds for the year 1969. A major portion of these chemicals falls under Standard Industrial Classifications 2815 and 2818. The important products of the industry are those derived from petroleum fractions.

The Organic Chemicals industry consists of such a complex combination of processes and products that a "typical or average" plant exists only in a statistical sense. The product mix and output of an industry depend primarily on the total economic activity and the demand for products. The Organic Chemicals industry is very dynamic in development of new products and processes.

Considering the number of products involved within the industry (several hundred), this study has been limited to the high-volume products, and only 27 major chemicals are included. These products in combination represent approximately 81 percent of the total organic chemicals manufactured in the United States. A listing of the products covered is shown below in the order of 1970 manufacturing volume (1):

1. Ethylene
2. Benzene
3. Propylene
4. Ethylene Dichloride
5. Toluene
6. Methanol
7. Ethylbenzene
8. Styrene
9. Formaldehyde
10. Vinyl Chloride
11. Ethylene Oxide
12. Xylene (Mixed)
13. Butadiene
14. Ethylene Glycol
15. Ethanol
16. Isopropanol
17. Acetic Acid
18. Cumene
19. Cyclohexane
20. Phenol
21. Acetaldehyde
22. Acetic Anyhdride
23. Terephthalic Acid
24. Dimethyl Terephthalate
25. Acetone
26. Adipic Acid
27. Acrylonitrile

The total annual U.S. production of these 27 organic chemicals amounted to approximately 98 billion pounds

for 1970. Depending upon the sequence of production from petroleum sources, chemicals are referred to as either feedstocks or intermediate petrochemicals. Of the 27 chemicals there are 22 intermediate chemicals and five feedstocks (i.e., ethylene, propylene, benzene, toluene, and xylene).

A review of wastewater characteristics indicated that certain products can be grouped together on the basis of pollutants present in the wastewater. Accordingly, the 27 product chemicals covered under this category are divided into three Sub-groups as follows:

Sub-Group 1

1. Benzene
2. Toluene
3. Xylene
4. Cyclohexane
5. Adipic Acid
6. Ethylbenzene
7. Styrene
8. Phenol
9. Terephthalic Acid (TPA)
10. Dimethyl Terephthalate (DMT)
11. Ethylene
12. Ethylene Dichloride
13. Vinyl Chloride (Monomer)
14. Ethanol
15. Acetaldehyde
16. Acetic Acid
17. Acetic Anyhdride
18. Propylene
19. Isopropanol
20. Acetone
21. Cumene
22. Ethylene Oxide
23. Ethylene Glycol

Sub-Group 2

1. Butadiene
2. Methanol
3. Formaldehyde

Sub-Group 3

Acrylonitrile

2. Industrial Practices

The chemical reactions involved in the production of the foregoing chemicals include petroleum reforming, thermal or catalytic cracking, oxidation, alkylation, dehydrogenation, hydration, and chlorination. Most processes use proprietary catalysts to increase product yield and to reduce severe operating conditions and pollution. Water is used extensively both in the process and for cooling purposes.

3. Wastewater Characteristics

The characteristics of process wastewaters from the manufacture of products under each pretreatment group are shown in Table D-15-1.

The characteristics of wastewaters vary from plant to plant, according to the products and processes used. The Organic Chemicals plants generally operate 24 hours a day throughout the year. Depending upon the product mix and the manufacturing process, hourly variations in wastewater volume and loading may occur as a result of certain batch operations (filter washing, crystallization, solvent extraction, etc.). The wastewater collection systems are generally segregated, to permit separate collection of process wastewaters and relatively clean cooling waters. The process wastewaters are usually discharged to a common sewerage system for treatment and disposal.

The process wastewaters from the manufacture of chemicals under Sub-Group 1 generally contain free or emulsified oil, while under Sub-Group 2 generally do not contain oil. Acrylonitrile manufacture (Sub-Group 3) produces a wastewater containing cyanides and substantial quantities of acids.

These wastewaters, in general, contain unreacted raw materials and losses in products, by-products, coproducts, and any auxiliary chemicals used in the process. Detailed analyses for every specific chemical present in the wastewater is difficult and are not generally used to describe the characteristics of wastes. However, the available information indicates that the wastewaters contain: BOD, COD, oil, suspended solids, acidity, alkalinity, heavy metals, and heat.

The wastewaters discharged from the manufacture of products under Sub-Group 1 may contain oil and grease and a series of heavy metals (Fe, Cd, Cu, Co, V, Pd) (2,3). The types and amounts of heavy metals in the wastewater depend primarily on the manufacturing process and the amount and type of catalysts lost from the process. Most catalysts are expensive and, therefore, recovered for reuse. Only unrecoverable catalysts (heavy metals), generally in small concentrations, appear in the wastewater.

The wastewaters generated from the manufacture of products under Sub-Group 2 contain: BOD, acidity or alkalinity (pH

4 to 11), and heavy metals (Cr, Cu, Zn, Hg). These wastewaters are amenable to biological treatment after equalization and neutralization. The production of butadiene may produce a wastewater containing free or emulsified oil; an oil separation device may be required as pretreatment when the oil content in the wastewater exceeds 50 mg/L. Only unrecoverable heavy metals (catalysts), generally in small concentrations, appear in the wastewater.

The manufacture of acrylonitrile produces a highly toxic wastewater which is difficult to treat biologically. The toxicity characteristics have been attributed to the presence of hydrogen cyanide in excessive quantities (500 to 1,800 mg/L). In addition, the wastewater is generally acidic (pH 4 to 6) and contains high concentrations of organic carbon. These wastewaters are generally segregated from other process wastes and disposed of by other means (e.g. incineration). These wastewaters are not generally discharged to municipal collection systems. The pretreatment unit operations developed in the following section do not include the process wastewaters from the manufacture of acrylonitrile (Sub-Group 3).

4. Pretreatment

Table D-15-2 shows the pretreatment unit operations which may be necessary for joint treatment processes.

The heavy metals present in organic chemical wastes are in many cases so low in concentration that heavy metals removal is not required from the standpoint of treatability characteristics. However, the effluent limitations for heavy metals and toxic pollutants may require additional pretreatment (chemical precipitation) for removal of these materials.

The pretreatment unit operations generally consist of equalization, neutralization, and oil separation. In addition, phenol recovery (to reduce the phenol concentration) and spill protection for spent acids and spent caustics may be required in some cases.

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Table D-15-1

Wastewater Characteristics

Organic Chemicals

Characteristics	Sub-Group 1	Sub-Group 2	Sub-Group 3
Industrial Operation	Year-round	Year-round	Year-round
Flow	Continuous-Variable	Continuous-Variable	Continuous-Variable
BOD	Average-EXT. HIGH	AVERAGE-HIGH	Low[1]
TSS	Low-High	Low	High
TDS	HIGH	Low-High	High
COD	Average-EXT. HIGH	Average-HIGH	High
Grit	Absent	Absent	Absent
Cyanide	Absent	Absent	PRESENT
Chlorine Demand	High	High	High
pH	ACIDIC-ALKALINE	ACIDIC-ALKALINE	ACIDIC
Color	Low-Average	Low-Average	Low
Turbidity	Low	Low	Low
Explosives	Absent	Absent	Absent
Dissolved Gases	Present	Present	Present
Detergents	Present	Present	Present
Foaming	Present	Present	Present
Heavy Metals	Present	Present	Present
Colloidal Solids	Absent	Absent	Absent
Volatile Organics	Present	Present	Present
Pesticides	Absent	Absent	Absent
Phosphorus	DEFICIENT	DEFICIENT	DEFICIENT
Nitrogen	DEFICIENT	DEFICIENT[2]	Adequate
Temperature	Normal-HIGH[3]	High[3]	No Data
Phenol	Low-High	Present	Absent
Sulfides	Present	Present	Absent
Oil and Grease	Low-HIGH	Low-HIGH	Absent
Coliform (Total)	Low	Low	Low

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[1] Low BOD is probably due to the toxicity characteristics of this waste.

[2] Adequate when butadiene is manufactured.

[3] Temperature equal to or higher than domestic wastewater; may affect design but not harmful to joint treatment.

NOTES: Characteristics which may require pretreatment or are significant to joint treatment plant design are shown in UPPER CASE.
Wastewater characteristics shown reflect all industrial practices described in Section 2.

Table D-15-2
Pretreatment Unit Operations for the
Organic Chemicals Industry

Pretreatment Sub-Group	Suspended Biological System	Fixed Biological System	Independent Physical-Chemical System
1	Oil Separation + Equalization + Neutralization + Spill Protection + Chemical Precipitation[1]	Oil Separation + Equalization + Neutralization + Spill Protection + Chemical Precipitation[1]	Equalization + Neutralization + Chemical Precipitation[1]
2	Oil Separation[2] + Equalization + Neutralization	Oil Separation[2] + Equalization + Neutralization	Equalization + Neutralization

[1] Need for chemical precipitation depends on extent of catalyst recovery.

[2] Oil separation required for butadiene manufacture only.

REFERENCES

1. Chemical and Engineering News, (May 17, 1971).

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METAL FINISHING INDUSTRY

1. Industry Description

This industry includes Standard Industry Classification (SIC) 3471.

The industries covered under this classification include those primarily engaged in various types of plating, anodizing, coloring, forming, and finishing of metals. The metal-finishing industry operations are related closely to those of many other industries, including transportation (automobile parts and accessories), electrical, and jewelry.

The metal-finishing operation involves cleaning, conversion coating, organic coating, plating, anodizing, coloring, and case hardening. Acid pickling is the most common type of cleaning of metal being prepared for plating. Sulfuric acid is the most commonly used pickling agent, but phosphoric, hydrochloric, hydrofluoric, and other acids are used as well. Alkalies, dichromates, and numerous proprietary compounds are also used in various combinations for descaling, degreasing, desmudging, stripping, brightening, or otherwise preparing different metals (zinc, steel, brass, copper, etc.) for plating or anodizing.

The plating solutions for nickel, chromium copper, cadmium, zinc, tin, and silver may be basically cyanide, acid, or alkaline. Anodizing is done either in sulfuric acid or in chromate solutions. Colorizing is accomplished with dyes, nickel acetate, and chromates. Cyanides are used in case hardening.

2. Wastewater Characteristics

The characteristics of the process wastewaters from the industry are shown in Table D-16-1.

The metal-finishing industry usually generates a continuous stream of rinse waters containing dilute concentrations of heavy metals and cyanides and intermittent batch dumpings of spend acid and cleaning solutions. The nature of metal-finishing operations and the consequent fluctuating (cyclic) characteristics of the wastewater should be taken into consideration in the design of treatment facilities.

Water is used extensively in metal-finishing processes to clean, strip, pickle, and rinse the metal products before and after plating operations. The rinse waters constitute the major volume of wastewaters, while spent solutions discharged intermittently add major pollutants to the total effluent. The

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wastewaters contain, in general, spent acids, alkalis, oil and grease, detergents, cyanides, and various heavy metals (Cr, Ni, Cu, Ag, Fe, Zn, and Sn). The metal-finishing plants differ from one another with respect to their processes, metals, and chemicals, and the characteristics of wastewater may vary widely from one to another. However, their wastewaters all contain primarily inorganic pollutants, particularly heavy metals. In addition, the wastewaters frequently are highly toxic due to the presence of cyanides and heavy metals (1,2,3).

In general, the types of wastewaters from metal-finishing industries are:

1. Acid wastes
2. Alkaline wastes
3. Heavy metals wastes
4. Cyanide-bearing wastes
5. Miscellaneous wastes (dyes, soluble and floating oils, etc.)

Any of these wastewaters may occur as either dilute rinse waters or concentrated baths. Except for the cyanide-bearing wastes, the wastewaters are generally connected to a common sewerage system for treatment and disposal. The cyanide wastes usually are collected in a segregated sewer system in order to prevent the release of toxic hydrogen cyanide gas under acidic conditions. However, the cyanide wastes can be mixed with other waste streams provided that any acid streams are neutralized prior to mixing with the cyanide waste stream (4,5,6).

The major constituents in the wastewaters generated from metal-finishing operations are cyanides, metal ions, (Cr^{6+}, Ni, Fe, Cu, Ag, and Sn), oil and grease, organic solvents, acids, and alkalis. The wastewaters characteristically are so toxic and corrosive to sewers and equipment that they require pretreatment before discharge to municipal sewers.

A wide variety of processes are used in metal finishing operations, resulting in widely varying wastewater characteristics. Typically, these wastewaters have poor treatability characteristics without adequate pretreatment.

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3. Pretreatment

The pretreatment unit operations for various types of joint treatment facilities are shown in Table D-16-2.

The pretreatment processes generally involve separate treatment of cyanide wastes and other acid wastes containing metal ions. The cyanide wastes can be treated with ferrous sulfate and lime to convert highly toxic cyanides to less toxic cyanates or cyanide complexes, or can be oxidized to CO_2 and N_2 with chlorine under alkaline conditions. The acid waste streams are treated first to reduce hexavalent chromium to trivalent chromium, using ferrous sulfate, scrap iron, or sulfur dioxide, and then precipitating the metal ions (Cr^{3+}) as metal hydroxides.

In addition to the effluent limitations and the processes shown in Table D-16-2, the degree of reduction in heavy metals waste loadings should consider the sludge handling and disposal methods used for the combined domestic and metal finishing wastewaters. Some processes (e.g. anaerobic digestion) concentrate these metals, and this can lead to process failure unless adequate pretreatment is provided.

Table D-16-1

Wastewater Characteristics

Metal Finishing Industry

Characteristics	
Industrial Operation	Year-round (BATCH)
Flow	Continuous-VARIABLE
BOD	Low
TSS	Average-High
TDS	HIGH
COD	Low
Grit	Present
Cyanide	HIGH
Chlorine Demand	HIGH
pH	ACIDIC
Color	Present
Turbidity	Present
Explosives	Absent
Dissolved Gases	Present
Detergents	Present
Foaming	Absent
Heavy Metals	HIGH
Colloidal Solids	Absent
Volatile Organics	Present
Pesticides	Absent
Phosphorus	Present
Nitrogen	Present
Temperature	Normal
Phenol	Low
Sulfides	Absent
Oil and Grease	Present
Coliform (Total)	Absent

[1]Temperature similar to domestic wastewater

NOTE: Characteristics which may require pretreatment or are significant to joint treatment plant design are shown in UPPER CASE.

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TABLE D-16-2

Pretreatment Unit Operations for the Metal Finishing Industry

Suspended Biological System	Fixed Biological System	Independent Physical Chemical System
Equalization + Neutralization + Cyanide Removal + Chromium Reduction + Chemical Precipitation (Heavy Metals)+ Solids Separation	Equalization + Neutralization + Cyanide Removal + Chromium Reduction + Chemical Precipitation (Heavy Metals) + Solids Separation	Equalization + Cyanide Removal + Chemical Precipitation + Neutralization

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[1]Chemical precipitation may not be needed, depending on the processes used in the independent physical chemical joint treatment plant.

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5. "An Investigation of Techniques for Removal of Chromium from Electroplating Wastes", Water Pollution Control Research Series, 12010-EIE 3/71, EPA, Washington, D.C. (1971).

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Annex 17

Other Industries

Six industries have been included in this group, on the basis of the following considerations:

1. Wastewaters from the industry contain only inorganic waste constituents.

2. Wastewaters from the industry are not usually discharged to joint treatment plants.

The following industries are included in this group:

1. Inorganic Fertilizer
   (SIC 2071)

2. Electric and Steam Generation
   (SIC 4911, 4961)

3. Aluminum
   (SIC 3334, 3341, 3361)

4. Flat Glass, Cement, Lime, Concrete Products, Gypsum, and Asbestos
   (SIC 3211, 3241, 3274, 3275, 3292)

5. Inorganic Chemicals
   (SIC 2812, 2819)

6. Industrial Gas Products
   (SIC 2813)

Two tables are provided for each of these six industries; the first shows the wastewater characteristics, and the other shows pretreatment unit operations for various joint treatment processes.

Table D-17-1

Wastewater Characteristics

Inorganic Fertilizer

Characteristics	Phosphoric Acid Normal Super Phosphate Triple Super Phosphate Mono-Ammonium Phosphate Di-Ammonium Phosphate N-P-K Fertilizers	Ammonia	Ammonium Nitrate Urea Ammonium Sulfate
Industrial Operation	Year-Round	Year-Round	Year-Round
Flow	Continuous	Continuous	Continuous
BOD	Low-Average	Low	Low-Average
TSS	Average-High	Low-Average	Low-Average
TDS	HIGH	HIGH	HIGH
COD	Low-Average	Low	Low-Average
Grit	Absent	Absent	Absent
Cyanide	Absent	Absent	Absent
Chlorine Demand	Low	Low	Low
pH	ACID	ALKALINE	ALKALINE
Color	No Data	No Data	No Data
Turbidity	No Data	No Data	No Data
Explosive Chemicals	Absent	Absent	Absent
Dissolved Gases	PRESENT	Absent	Absent
Detergents	Absent	Absent	Absent
Foaming	No Data	No Data	No Data
Heavy Metals	Absent	Absent	Absent
Colloidal Solids	Absent	Absent	Absent
Volatile Organics	Absent	Absent	Absent
Pesticides	Absent	Absent	Absent
Phosphorus	Adequate	DEFICIENT	Adequate
Nitrogen	Adequate	Adequate	Adequate
Temperature	Normal-High[1]	Normal-High[1]	Normal-High[1]
Phenol	No Data	No Data	No Data
Sulfide	No Data	No Data	No Data
Oil & Grease	Absent	PRESENT[2]	Absent
Coliform (Total)	Absent	Absent	Absent

[1] Temperature equal to higher than domestic wastewater; affect design but not harmful to joint treatment.

[2] Oil present in the wastewater is mineral in origin.

NOTE: Characteristics which may require pretreatment or are significant to joint treatment plant design are shown in UPPER CASE.

Table D-17-2

Pretreatment Unit Operations for the Inorganic Fertilizers Industry

Pretreatment Group	Suspended Biological System	Fixed Biological System	Independent Physical-Chemical System
Phosphoric Acid Normal Super Phosphate Triple Super Phosphate Mono-Ammonium Phosphate Di-Ammonium Phosphate N-P-K Fertilizers	solids separation + neutralization	solids separation + neutralization	solids separation + neutralization
Ammonia	neutralization + oil separation	neutralization + oil separation	neutralization + oil separation
Ammonium Nitrate Urea Ammonium Sulfate	neutralization	neutralization	neutralization

Table D-18-1

Wastewater Characteristics

Electric and Steam Generation

Characteristic	
Industry Operation	Year-Round
Flow	INTERMITTENT
BOD	Low
TSS	Low
TDS	High
COD	Low
Grit	Low
Cyanide	Present[1]
Chlorine Demand	Low
pH	ACIDIC-ALKALINE
Color	Low
Turbidity	Low
Explosive Chemicals	Absent
Dissolved Gases	Absent
Detergents	Present
Foaming	Present
Heavy Metals	PRESENT
Colloidal Solids	Absent
Volatile Organics	Present
Pesticides	Absent
Phosphorus	DEFICIENT
Nitrogen	DEFICIENT
Temperature	HIGH[2]
Phenol	Present[3]
Sulfide	Absent
Oil and Grease	Present
Coliform (Total)	Absent

[1]Cyanide may be present if cooling water is also discharged to the sewers.
[2]Temperature higher than domestic wastewater; may require cooling as pretreatment.
[3]Phenol may be used in cooling water treatment.

NOTE: Characteristics which may require pretreatment or are significant to joint treatment plant design are shown in UPPER CASE.

Table D-18-2

Pretreatment Unit Operations for the Electric and Steam Generation Industry

Suspended Biological System	Fixed Biological System	Independent Physical-Chemical System
Equalization (cooling) + Neutralization + Chemical Precipitation (heavy metals) + Cyanide Oxidation	Equalization (cooling) + Neutralization + Chemical Precipitation (heavy metals) + Cyanide Oxidation	Equaliation (cooling) + Neutralization + Chemical Precipitation (heavy metals) + Cyanide Oxidation

Table D-19-1

Wastewater Characteristics

Nonferrous Metals - Aluminum

Characteristics	Bauxite Refining Primary Smelting	Direct Chill Ingot Casting and Foundry Rolling, Drawing and Extruding
Industry Operation	Year-round	Year-round
Flow	Continuous	Continuous
BOD	Low	Low
TSS	HIGH	HIGH
TDS	Low	Low-Average
COD	Low	Low
Grit	PRESENT[1]	Absent
Cyanide	Present	Absent
Chlorine Demand	Low	Low
pH	Neutral	NEUTRAL-ACID
Color	High	Average
Turbidity	High	Average
Explosive Chemicals	Absent	Absent
Dissolved Gases	PRESENT[2]	PRESENT[2]
Detergents	Absent	Absent
Heavy Metals	Present	Absent
Colloidal Solids	Absent	Absent
Volatile Organics	Absent	Absent
Pesticides	Absent	Absent
Phosphorus	DEFICIENT	Deficient-Adequate[4]
Nitrogen	DEFICIENT	DEFICIENT
Temperature	Normal-HIGH	Normal-HIGH
Phenol	Absent	Absent
Sulfide	Absent	Absent
Oil and Grease	Present	Present[5]
Coliform (Total)	Absent	Absent

[1] Present in bauxite refining wastewater.

[2] Fluorine is generally present in scrubber water.

[3] Chlorine is present in casting, foundry, and secondary smelting scrubber waters.

[4] Phosphate in high concentration (1,000 mg/L) is present only when can stock is coated in preparation for painting by the can manufacturer.

[5] Oil and Grease may be present in emulsified form; not animal or vegetable origin.

NOTE: Characteristics which may require pretreatment or are significant to joint treatment plant design are shown in UPPER CASE.

Table D-19-2

Pretreatment Unit Operations for the Aluminum Industry

Pretreatment Group	Suspended Biological System	Fixed Biological System	Independent Physical-Chemical System
Bauxite Refining Primary Smelting	solids separation	solids separation	solids separation
Direct Chill Ingot Casting and Foundry Rolling, Drawing, Foundry Extruding Secondary Smelting	oil separation + neutralization + chemical precipitation (phosphate removal)	oil separation + neutralization + chemical precipitation (phosphate removal)	oil separation + neutralization + chemical precipitation (phosphate removal)

Table D-20-1

Wastewater Characteristics

Glass, Cement, Lime, Concrete Products, Asbestos and Gypsum Products

Characteristic	Flat Glass	Mirrors	Cement & Lime	Concrete Products	Asbestos & Gypsum
Industry Operation	Year-round	Year-round	Year-round	Year-round	Year-round
Flow	Continuous	Continuous	Continuous	Continuous	Continuous
BOD	Low	Low	Low	Low	Low
TSS	Low-HIGH	HIGH	HIGH	Low-HIGH	Low-HIGH
TDS	Low-HIGH	HIGH	HIGH	LOW-HIGH	No data
COD	Low	Low	Low	Low	Low
Grit	PRESENT	PRESENT	Absent	PRESENT	Absent
Cyanide	Absent	Absent	Absent	Absent	Absent
Chlorine Demand	No Data	No Data	No Data	No Data	No Data
pH	Neutral	ALKALINE	ALKALINE	ALKALINE	Neutral
Color	Absent	Absent	Absent	Absent	Absent
Turbidity	Present	Present	Present	Present	Present
Explosive Chemicals	Absent	Absent	Absent	Absent	Absent
Dissolved Gases	Absent	Absent	Absent	Absent	Absent
Detergents	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT
Foaming	Absent	Absent	Absent	Absent	Absent
Heavy Metals	Absent	Present	Absent	Absent	Absent
Colloidal Solids	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT
Volatile Organics	Absent	Absent	Absent	Absent	Absent
Pesticides	Absent	Absent	Absent	Absent	Absent
Phosphorus	PRESENT	PRESENT	DEFICIENT	DEFICIENT	DEFICIENT
Nitrogen	DEFICIENT	DEFICIENT	DEFICIENT	DEFICIENT	DEFICIENT
Temperature	Normal[2]	Normal[2]	Normal-High[2]	Normal[2]	Normal-High[2]
Phenol	Absent	Absent	Absent	Absent	Absent
Sulfide	Absent	Absent	Absent	Absent	Absent
Oil and Grease	ABSENT[1]	Absent	Absent	Absent	Absent
Coliform (Total)	Absent	Absent	Absent	Absent	Absent

[1] Present in automotive glass and glass bottles manufacturing wastewaters.

[2] Temperature equal to or greater than domestic wastewater; may affect design but not harmful to joint treatment.

NOTE: Characteristics which may require pretreatment or are significant to joint treatment plant design are shown in UPPER CASE.

Table D-20-2

Pretreatment Unit Operations for the
Glass, Cement, Lime, Concrete Products, Asbestos, and Gypsum Products Industry

Pretreatment Group	Suspended Biological System	Fixed Biological System	Independent Physical Chemical System
Flat Glass	grit removal + solids separation	grit removal + solids separation	grit removal + solids separation
Mirrors	grit removal + neutralization + chemical precipitation (heavy metals)	grit removal + neutralization + chemical precipitation (heavy metals)	grit removal + neutralization + chemical precipitation (heavy metals)
Cement & Lime	neutralization	neutralization	neutralization
Concrete Products	grit removal + neutralization	grit removal + neutralization	grit removal + neutralization
Asbestos & Gypsum Products	solids separation	solids separation	solids separation

Table D-21-1

Wastewater Characteristics

Inorganic Chemicals

Characteristic	Calcium Carbide Sodium Chloride Sodium Tripoly-phosphate	Chlorine, Etc.	Hydrogen Peroxide Sodium Dichromate Sodium Sulfate	Aluminum Chloride, Etc.
Industry Operation	Year-Round	Year-Round	Year-Round	Year-Round
Flow	Continuous	Continuous	Continuous	Continuous
BOD	Low	Low	Low	Low
TSS	No Data	No Data	No Data	No Data
TDS	AVERAGE[1]	HIGH	HIGH	HIGH
COD	Low	Low	Low	Low
Grit	Absent	Absent	Absent	Absent
Cyanide	Absent	Absent	PRESENT[2]	Absent
Chlorine Demand	Low	Low	Low	Low
pH	Neutral	ACID-BASIC	ACID-BASIC	ACID-BASIC
Color	No Data	No Data	No Data	No Data
Turbidity	No Data	No Data	No Data	No Data
Explosive Chemicals	Absent	Absent	Absent	Absent
Dissolved Gases	Absent	Absent	Absent	Absent
Detergents	Absent	Absent	Absent	Absent
Foaming	No Data	No Data	No Data	No Data
Heavy Metals	Absent	PRESENT[3]	PRESENT	Absent
Colloidal Solids				
Volatile Organics	Absent	Absent	Absent	Absent
Pesticides	Absent	Absent	Absent	Absent
Phosphorus	DEFICIENT[4]	DEFICIENT	DEFICIENT	DEFICIENT
Nitrogen	DEFICIENT	DEFICIENT	DEFICIENT	DEFICIENT
Temperature	Normal-high	Normal-high	Normal-high	Normal-high
Phenol	No Data	No Data	No Data	No Data
Sulfide	No Data	No Data	No Data	No Data
Oil and Grease	Absent	Absent	Absent	Absent
Coliform (Total)	No Data	No Data	No Data	No Data

[1] NaCl wastes have high salt concentrations.

[2] Cyanide generated by electrolytic process for hydrogen peroxide.

[3] Downs cell process for chlorine doesn't generate heavy metals.

[4] Sodium Triphosphate Wastewater will have very high phosphate concentration (≈2000 mg/l)

NOTE: Characteristics which may require pretreatment or are significant to joint treatment plant design are shown in UPPER CASE.

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Table D-21-2

Pretreatment Unit Operations for the Inorganic Chemicals Industry

Pretreatment Group	Suspended Biological System	Fixed Biological System	Independent Physical-Chemical System
Calcium Carbide Sodium Chloride Sodium Tripolyphosphate	pretreatment not required	pretreatment not required	pretreatment not required
Chlorine Sodium Hydroxide Potassium Hydroxide Sodium Metal Hydrochloric Acid	neutralization + chemical precipitation (heavy metals) + equalization	neutralization + chemical precipitation (heavy metals) + equalization	neutralization + chemical precipitation (heavy metals)
Hydrogen Peroxide Sodium Dichromate Sodium Sulfate	neutalization + chemical precipitation (heavy metals)	neutralization + chemical precipitation (heavy metals)	neutralization + chemical precipitation (heavy metals)
Aluminum Chloride Aluminum Sulfate Hydrofluoric Acid Nitric Acid Sodium Bicarbonate Sodium Silicate Sodium Sulfite Sulfuric Acid Sodium Carbonate	neutralization	neutralization	neutralization

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Table D-22-1

Wastewater Characteristics

Industrial Gases

Characteristic	Hydrogen, Nitrogen, Oxygen, and Carbon Dioxide
Industry Operation	Year-Round
Flow	Continuous
BOD	Low
TSS	Low-average
TDS	Low-average
COD	Low
Grit	Absent
Cyanide	Absent
Chlorine Demand	Low
pH	ACID-BASIC
Color	Low
Turbidity	Low
Explosive Chemicals	Absent
Dissolved Gases	Absent
Detergents	Absent
Foaming	No Data
Heavy Metals	Absent
Colloidal Solids	Absent
Volatile Organics	Absent
Pesticides	Absent
Phosphorus	DEFICIENT
Nitrogen	DEFICIENT
Temperature	Average-high
Phenol	Absent
Sulfide	Absent
Oil and Grease	PRESENT
Coliform (Total)	Absent

[1] Wastewaters are constant over the daily operating period.

NOTE: Characteristics which may require pretreatment or are significant to joint treatment plant design are shown in UPPER CASE.

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Table D-22-2

Pretreatment Unit Operations for the Industrial Gases Industry

Industry	Suspended Biological System	Fixed Biological System	Independent Physical-Chemical System
Hydrogen Nitrogen Carbon Dioxide Oxygen	oil separation + neutralization	oil separation + neutralization	oil separation + neutralization

[1]Oil Separation required to reduce mineral oil concentration below 50 mg/L.

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